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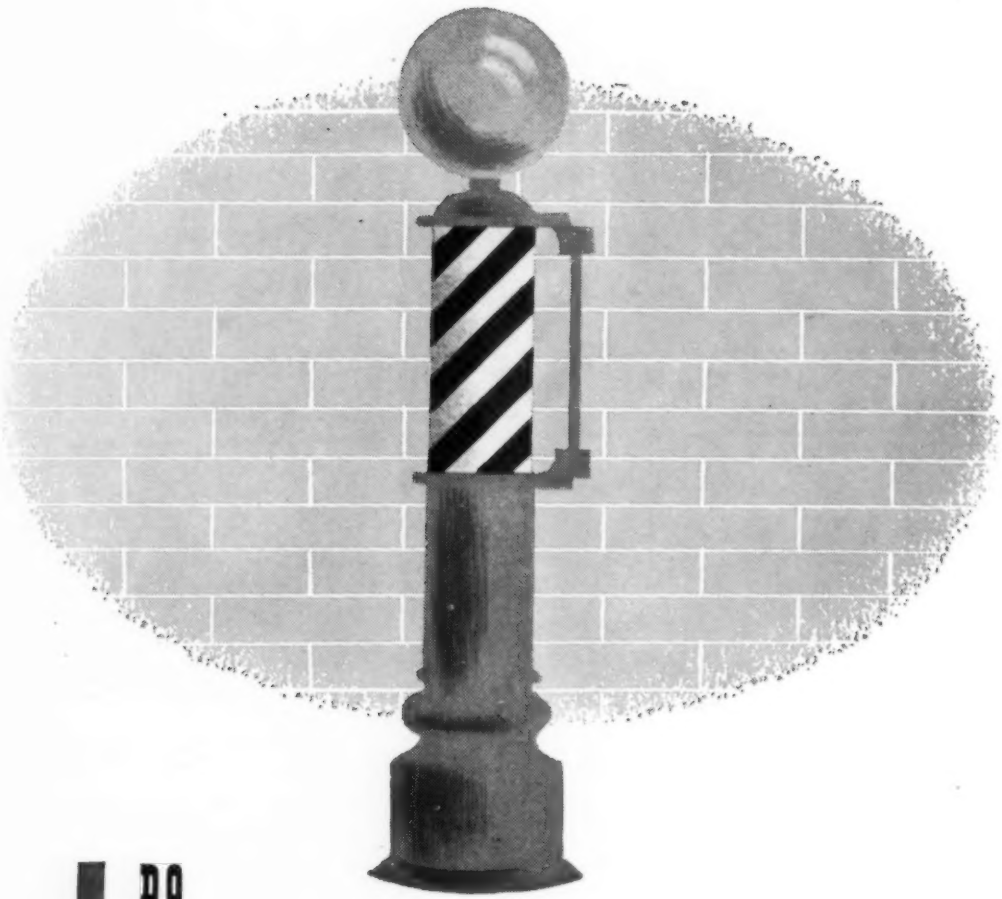

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EDITORIALS

OKLAHOMA CHILD HEALTH SERVICES SURVEY

Featured at last week's annual meeting of the American Academy of Pediatrics was news from their nation-wide Survey of Child Health Services, now completed or nearing completion in 46 States. Academy members in Oklahoma start the Oklahoma Survey this month.

Post-war planning for child care has received much attention recently from many groups and individuals in the country, culminating in legislation now before Congress. The American Academy of Pediatrics, realizing that responsibility for such planning rests primarily in the hands of physicians themselves, has launched the Study of Child Health Services in order first, to gather necessary facts from which well-founded plans can be evolved, and second, to determine the extent and quality of services now available. Thus the physicians, unquestionably the ones who know what constitutes good care and who for the most part provide the care, have accepted the challenge to develop constructive plans for medical service to children.

One of the fundamental purposes of the present study is to stimulate local groups to discover for themselves the needs of their own communities and the facilities to meet those needs. Essentially, this means the collection on a vast scale of adequate and reliable data. Although the members of the Academy are committed to carry out the task, the success of this tremendous undertaking is the responsibility of individual physicians everywhere.

To obtain a complete picture of the existing child health facilities, data is being collected by questionnaires on the important aspects of pediatric and medical service: First, Hospital Facilities; Second, Community Health Services, Official and Voluntary; Third, Distribution, Qualifications, and Activities of Physicians and Dentists; and Fourth, Pediatric Education.

The Study in each State is under the direction of a member of the Academy, who, with the help of an Executive Secretary, has organized the program and correlated the many activities involved. The Oklahoma Study of Child Care Services is under the direction of Harold W. Buchner, M.D., State Chairman, and an Executive Committee including Ben H. Nicholson, M.D.; George H. Garrison, M.D.; Dean J. P. Gray, M.D.; George R. Russell, M.D.; Mack Shanholtz, M.D.; and Dr. A. C. Seids, representing the dental profession.

As all doctors are exceptionally busy now, procedures for obtaining the necessary information have been simplified. Every effort has been made to use available local sources, but certain essential data can be obtained only through the active participation of individual physicians. Specifically, the pediatrician will be asked to fill out the questionnaire dealing with his own training and practice; to supervise the completion of a questionnaire for one or more hospitals in his community; to send out prepared letters to designated practicing physicians informing them of the Study and requesting their cooperation in obtaining information on their pediatric practice; and to assist the Executive Secretary in his State in discussing the program with local, professional, and voluntary groups and health officers.

Physicians in private practice will be asked to complete a one-page questionnaire on their pediatric practice. A similar one-page questionnaire will be sent to all dentists.

This Study is important and unique. It is an opportunity for physicians, not only to investigate their own affairs, but also to collect factual data as a logical basis for sound medical care programs in the future. Unless the physicians undertake this task, others less well qualified will, as indicated already by the action of the federal legislators.

OLD AGE

In 1757 James Mackenzie[1] said, "To form any clear or connected judgment from these short and scattered hints, which may be gleaned among authors of remote antiquity, concerning the preservation of health, it will be necessary to distinguish four periods of human life, to each of which a peculiar care is due with regard to health, namely, childhood, youth, manhood and old age. . . . Of these four periods, the Gerocomice, or care of old age, is the only one (so far as I know) taken notice of before Pythagoras."

In the light of present trends with mounting interest in geriatics (healing of the old) this is an interesting observation. According to Mackenzie the "earliest instance we meet with of the Gerocomice, is the care which King David's servants took of him, when he was old and stricken in years, by getting a healthy young virgin to lie in his bosom, which was a very proper means to warm and cherish him; and which (when kept within the bounds of innocence and decency) is justified by the opinions of Galen, Paulus Aegineta, lord Verulam and Boerhaave. . . .

"Boerhaave frequently told his pupils, that an old German prince, in a very infirm state of health, being advised to lie between two young virtuous virgins, grew so healthy and strong, that his physicians found it necessary to remove his companions."

Homer was acquainted with the needs of the aged and in the last book of *The Odyssey* Ulysses tells his father Laertes that "warm baths, good food, soft sleep and generous wine, these are the rights of age, and should be thine". Galen in the Second Century A. D. gave "the poet's rule" his hearty approval.

Having quoted Mackenzie's reference to Boerhaave it is appropriate to see what he thought of the aging process and what he said in his famous lecture on "Diet for Longevity".[2] "A healthy human body is gradually so changed by the Actions inseparable from Life and Health, that the smallest Fibres become rigid and immoveable and the minutest Vessels grow together into solid Fibres, no longer previous to the Humours, while at the same time the larger Vessels become harden'd, contracted, smaller, and all Parts shrink together become more compact, grow to each other, and thereby occasion the Dryness, Wasting, Immobility and Insensibility remarkable in old people. By these Means the Offices of the smallest Vessels are destroyed, the Humours stagnate and thicken in them, concrete together, and with the Sides of their own containing Vessels; whence the Body is deprived of its most subtle Juices, the connoting Powers are weaken'd, the Wasting of the Body ceases to be repaired, and the grosser Humours only continue to flow slowly through the large Vessels; whence Life is in a manner barely supported alone, without the animal Actions; till at length from these Changes, consequent of Health itself, Death from a mere old Age becomes inevitable."

We are startled by the sad truth of Boerhaave's observations yet our present mode of living has doubled longevity in the United States since colonial days and brought under the scope of this aging process many who otherwise would have escaped the threats of senility through an early death.

The old age group is pyramiding by leaps and bounds. The aged not only participate in our changing social order but their presence initiates social and economic changes which carry serious health hazards. Since people who live beyond the age of fifty must grow old and since the healing of the old is difficult, everything possible should be done to keep them happy and well. What they need and want more than anything else is an opportunity for useful employment and the resulting independence. Enforced idleness leads to discontent, psychological imbalance results and physical disability is apt to follow. Our social and economic conditions, including urbanization of our populations and age retirement in industry, should be studied with reference to the aged. Between the time of forced retirement and the period of helpless senility there must be something better than old age pensions.

1. *The History of Health and The Art of Preserving It.* James Mackenzie. Edinburgh: Printed and sold by William Gordon. 1758.
2. *Academical Lectures on the Theory of Physic.* Hermann Boerhaave. London: Printed for J. Rivington, R. Baldwin, et al. 1757.

THE VALUE OF THE UNDISCOVERED

Our present knowledge is insignificant when compared to the undiscovered secrets of nature. Through medical progress based upon scientific discoveries we have managed to keep the ship of civilization off the rocks. The Oklahoma Research Foundation is planning to carry the compass. The worldly possessions in the hands of doctors have come chiefly through the march of science from laboratory to patient. The doctor who would preserve his medical and material competency must join the march of science by contributing to the Oklahoma Research Foundation.

SCIENTIFIC ARTICLES

THE DIAGNOSIS AND TREATMENT OF CARDIAC EMERGENCIES*

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When confronted with an emergency call for a heart attack, almost immediately numerous conditions which one might encounter are brought to mind. It is not always possible to establish a diagnosis and institute the proper therapy without difficulty. However, it is very essential that the situation be surveyed most carefully, including an accurate history and an adequate physical examination, since improper treatment at such a time could be disastrous to an individual in cardiac distress.

At this time some of the cardiac emergencies will be enumerated, their cardinal diagnostic criteria outlined, and the therapy indicated. These conditions will not necessarily be those of an organic nature, but also some of functional origin that produce alarming symptoms, and for which medical aid is sought in great haste. The cardiac emergency may vary from a mere palpitation in an emotionally unstable person, to one of heart failure.

The tachycardias constitute a group of disorders, either on a functional or an organic basis, which require frequent attention. The instance may be a simple sino-auricular tachycardia, a paroxysmal auricular tachycardia, a tachycardia associated with auricular fibrillation or auricular flutter, or the more serious forms arising in the ventricles and which may terminate in ventricular flutter or ventricular fibrillation. More rarely a tachycardia may occur from impulses originating in the A-V node.

SINO-AURICULAR TACHYCARDIA

In sino-auricular tachycardia impulses originate in the normal sinus node, but owing to the removal of the parasympathetic inhibition controlled by the vagus nerve, or due to sympathetic stimulation, the rate is in excess of 100 in adults, 120 in children, or 150 in infants. Not all instances of sino-auricular tachycardia are operative on this basis but may be also physiological in origin, such as that associated with effort, excitement, pathological states such as infections, thyrotoxicosis, shock, infarctions, etc., or post-prandially.

The diagnosis as a rule is not difficult and if any doubt exists the electrocardiogram is a valuable adjunct in arriving at the correct conclusion.

Treatment depends on the underlying cause. If it is associated with myocardial failure then digitalis may be of help by increasing the cardiac tone, and compensatory slowing in rate may follow improvement from its administration. Digitalis in therapeutic amounts causes little or no slowing of the heart. Neither is quinidine effective in sino-auricular tachycardia. If a nervous element is a large factor in the production of the accelerated cardiac rate, then sedation is indicated and is effective.

AURICULAR PAROXYSMAL TACHYCARDIA

The paroxysms of auricular tachycardia are frequently very ephemeral and the physician is not called until the spell is over. Or if his attention is sought during the episode he, as a rule, arrives after the paroxysm is over. On occasions such an incident may be prolonged and quite alarming to the patient and those about him. It may arise in individuals of all ages, most often in adults. Most paroxysms of this type occur in normal individuals following excitement, undue effort, excessive use of tobacco, or they may follow thyrotoxicosis and cardiac disease, especially mitral stenosis.

Usually the diagnosis is not difficult and is made without an electrocardiogram. The

*Presented before the Section on General Medicine of the Oklahoma State Medical Association, at the Annual Meeting, May 3, 1946.

onset of the tachycardia is sudden and the cessation is equally abrupt. The initial cardiac rate may not be attained immediately after the attack has ceased, owing to the residual excitement and nervousness incident to the experience. The spell may vary in duration from a few minutes to a few hours. If prolonged an electrocardiogram should be done. The P waves are abnormal in contour, ill defined in lead I, abnormal, upright, and occasionally inverted in lead II, of various shapes in lead III, and indescript in the usual precordial leads. The QRS complexes may be normal, or slightly or markedly aberrant. The rate varies between 160 and 200, and in infants can rise to 300 or more.

The condition is not a trivial one to be dispensed with lightly since in some instances, if prolonged, and if superimposed on a preexistent heart disease, cardiac embarrassment and even death may supervene. In mitral stenosis the pulmonary circulation may become embarrassed with the production of dyspnea, pulmonary edema, cardiac asthma, and even death. In cases of hypertension, aortic valvular disease, or myocardial infarction with left ventricular strain, left ventricular failure with pulmonary edema may be precipitated. Also, in cases of recent myocardial infarction, a status anginosus can result.

In the care of patients with paroxysmal tachycardias one should not be overzealous in taking the blood pressure, since with the inefficient circulation in the extremities a thrombosis of the vessels might occur.

Ordinarily the treatment of paroxysmal auricular tachycardia is transient, requiring only rest and reassurance of the patient, for a great majority of these cases are neurogenic in origin, occurring when there is nervous instability and following emotional disturbances. Often the spell subsides on mere change of position, or by firm pressure or massage of the carotid sinus, more effective on the right side of the neck. If the attack is prolonged the treatment must be modified, both from the standpoint of prevention of recurrent seizures and the cessation of the immediate one: quinidine sulphate in 3 to 6 grain doses, repeated at two hour intervals, two or three times, and continued in 3 grain doses four times daily for a day or two after the cessation of the attack. If the attack is so severe as to cause extremely rapid cardiac action, anxiety, and dyspnea, with prostration bordering on true shock and not responsive to the above methods, then the parenteral administration of quinidine or quinine is indicated. The latter may be given in the dosage of 7½ grains of quinine dihydrochloride, intramuscularly, at two-hour intervals. Quinidine sulphate may be administered by the drip method using a 10 per cent solution, with 50 to 60 grains dissolved in 500 cc. of a 5 per cent glucose solution or normal saline. This is given at the rate of 100 to 120 cc. per hour until a normal heart rate is restored or cinchonism occurs.[1] At times the administration of 2 to 4 drachms of syrup of ipecac, repeated in two hours if necessary, proves effective in stopping the paroxysm through its vagotonic action and production of vigorous emesis. Mecholyl (acetylbeta-methylcholine chloride), 20 to 50 milligrams injected subcutaneously, can be employed in the very obstinate cases. Atropine sulphate (1/60 gr.) should be at hand to be used as an antidote if the reaction is too severe.

AURICULAR FLUTTER

Auricular flutter is as a rule associated with heart disease, although it may occur in normal individuals. It is not common, but when present it produces alarming symptoms so that the physician is called upon to attend an emergency. The cardiac rate is about 150 per minute and the rhythm regular. In this condition the auricules contract regularly at a rate of 200 to 350 beats a minute owing to a circus rhythm in the auricles which follows a constant path. The ventricular rate is most frequently one-half of the auricular rate, and only rarely does a 1:1 rhythm exist. When carotid pressure is employed a marked slowing of the ventricles ensues temporarily and the ventricular rate may be one-third or one-fourth that of the auricles. This will suggest the diagnosis which can be easily confirmed by an electrocardiogram. When carotid pressure is applied the rhythm might become extremely irregular.

This condition responds to therapy very readily, digitalization being the measure of choice, and this can be accomplished by the administration of digitalis or one of the glycosides of digitalis. As soon as normal rhythm is established then digitalization is discontinued unless auricular fibrillation, or cardiac insufficiency supervene. Quinidine is not as effective as digitalis although normal rhythm is restored in some cases. Carotid sinus pressure is not effectual since it merely slows the rate, the pulse may become irregular and then the rate returns to the original one.

PAROXYSMAL AURICULAR FIBRILLATION

Usually auricular fibrillation occurs in individuals with organic heart disease, e.g., rheumatic heart disease with mitral stenosis, thyrotoxicosis, and hypertensive heart disease with coronary involvement resulting in infarction. However, it appears infrequently in normal individuals following excessive fatigue, tobacco, infection, and general debility. In this condition the mechanism of production is thought to be similar to that in auricular flutter, with the circus wave proceeding at a more rapid and irregular rate, and the ventricles responding irregularly at a rate of approximately 120-150 per minute. The paroxysmal type of auricular fibrillation is found with greater frequency in the aged.

The diagnosis should be suspected when encountering a rate of 120 per minute which is irregularly irregular. However, the confirmatory evidence can be readily obtained by taking an electrocardiogram.

Treatment of this condition is similar to that of auricular flutter. When a patient is seen shortly after the onset of the attack, quinidine should be given, 3 to 6 grains every two or three hours under close observation, and with electrocardiographic control when available. As improvement progresses one should watch for slowing of the auricular rate, and also for the development of toxic signs, e.g., bundle branch block. If quinidine proves ineffectual or the patient cannot tolerate it, then digitalis should be used. If cardiac failure, or status anginosus supervenes, then morphine sulphate and oxygen must be employed.

In normal individuals paroxysmal auricular fibrillation may readily respond to the treatment, or subside spontaneously with rest and never recur. However, if it occurs where the heart is damaged it might persist and the patient may carry on well under digitalis control for many years, or it could subside only to reappear at intervals. If there is considerable underlying cardiac damage the initial attack can result in cardiac failure and death within a few hours.

A-V NODAL PAROXYSMAL TACHYCARDIA

The symptomatology of this type of tachycardia is similar to that of the preceding conditions, and the treatment is the same as outlined for auricular paroxysmal tachycardia. Its occurrence is rare, and is diagnosed only by the electrocardiogram in which the P waves are inverted, and are either immediately before or after, or simultaneous with the QRS complexes.

VENTRICULAR PAROXYSMAL TACHYCARDIA

In ventricular tachycardia the impulses originate in the ventricles, and this as a rule is found in cases with extensive myocardial damage, or on the basis of some toxic condition such as digitalis poisoning. It is encountered usually in older persons, and rarely where there is a normal heart. Ventricular paroxysmal tachycardia is portentous and frequently appears as a terminal event following myocardial infarction. It may last a period of hours, and rarely for days or weeks.

The diagnosis is made with the aid of the electrocardiogram showing the rate of approximately 160 (150-250), with aberrant ventricular complexes; P waves, if recognized, are superimposed on the QRS complexes and T waves at times. When controlled the tachycardia stops as suddenly as it starts. The rhythm is regular but is disturbed by an irregularity and anisosphygmia during the attack. The rate is unaffected by carotid sinus pressure, large pulsations of the neck vessels are observed, and there is a slight difference in the intensity of the heart sounds.

The treatment must be energetic, and if it is suspected that the condition is caused by digitalis intoxication, this must be discontinued immediately. Quinidine should be administered and morphine should not be spared. Paredrine hydrobromide may be given if the above measures are ineffective.

VENTRICULAR FLUTTER AND VENTRICULAR FIBRILLATION

Ventricular flutter and ventricular fibrillation are occasionally encountered, and when present are terminal events. These attacks occur in severe myocardial damage, and if recovery takes place a fatal recurrence is the rule. When a patient is seen in an attack, with fainting, coma, and convulsions before death ensues, quinidine should be administered intravenously.

CORONARY OCCLUSION

Coronary occlusion is a rather frequent cause for urgent medical aid. The symptoms are dependent on the suddenness of the occlusion and the size of the vessel involved, being acute, severe, and alarming with a sudden closure. Death may result within several minutes to a few hours when a large vessel is occluded. The patient complains of a sudden and usually localized pain in the lower sternum or epigastric region, frequently mistaken for indigestion. The pain increases and

involves the entire sternum and precordial region, and may radiate to the left arm or in some instances the right. Atypical referred pain may occur in the neck, jaw, back, the entire chest, or the abdomen. The pain is excruciating, vise-like, and oppressive, cutting off respirations, and is not relieved by nitrites. The victim is terrorized and has apprehensions of impending death. He is restless, tosses about in bed trying to assume a comfortable position, or paces the floor. Shock prevails, the skin is cold and clammy, and beads of perspiration are obvious on the brow. The heart rate is rapid, there is a lowering of the blood pressure, muffling and impurity of the first heart sound, and a transient pericardial friction rub develops over the area of infarction. When the patient is seen without delay there is no hyperpyrexia, but a fever develops gradually and subsides after a few days. Likewise, a leukocytosis ranging from 10,000 to 20,000 follows and persists for several days. If myocardial failure results then symptoms of cardiac failure appear, namely, dyspnea, cyanosis, engorgement of the pulmonary circulation with consequent pulmonary edema, congestion of the cervical and cephalic veins, enlargement of the liver, ascites, and dependent edema.

The electrocardiogram is invaluable in confirming the diagnosis of coronary occlusion, and the changes found in the record are dependent on whether the anterior or the posterior coronary artery is involved. It is interesting to note that the mortality from a posterior myocardial infarction is not much less than from an anterior involvement, 30 per cent and 36 per cent respectively (Levine).[2] In this disease the physician will be harassed by apprehensive relatives regarding the prognosis and he will find it impossible to render an accurate estimate as to the final outcome. A prognosis in coronary occlusion must always be guarded, even though the patient appears well and protests that he is in good health once the acute attack is over. Nevertheless, the more major the abnormalities, the worse the prognosis. In the acute seizure morphine sulphate, or one of the other narcotics, should be administered and repeated as needed. A half grain of morphine sulphate, or 1/16 grain of dilaudid subcutaneously, can be given and repeated within three or four hours should the severe pain persist. Mental tranquility is imperative and sedatives are prescribed to remove anxieties, apprehension, and to promote sleep. Strict bed rest must be enforced for at least five or six weeks and this precludes the use of the bath room or the commode. Assistance must be given in all things, even in feeding, for the first ten days. The diet should be light, consisting mainly of liquids with the caloric value derived mostly from carbohydrates, and it can be gradually increased as improvement progresses. Good elimination is necessary, and if constipation is present, then mild laxatives and oil retention and plain water enemas are indicated. Digitalis is contraindicated, since by decreasing the cardiac rate and increasing the power of the ventricular contractions the infarcted area may rupture, or the ventricular wall may develop an aneurysm. If paroxysmal dyspnea exists then 50 cc. of 50 per cent glucose is given and oxygen administered.

HEART FAILURE

In acute heart failure the victim is sometimes seen in the initial attack, but usually he has been under a doctor's care and the incident is expected. This requires sound judgment and the most careful management. Previously the patient might have been considered a "good cardiac," but suddenly developed congestive failure owing to an intercurrent infection, a pulmonary infarction, undue effort or excitement, one of the previously discussed disturbances of rhythm, or post-operatively. In this condition the heart is incapable of doing the work demanded of it, and as a result there is a damming back of blood in either the pulmonary or the systemic circulation. The former is referred to as left sided failure (pulmonary vascular congestion), while the latter is right sided failure (systemic venous congestion). It is possible to have pure forms of either type but in chronic heart failure with an acute episode, a combination of both forms is the rule. When the whole heart is involved both forms are present. Dr. Paul White[3] has very succinctly distinguished the causes of congestive heart failure by classifying them as those arising from myocardial failure, and those brought about by obstructive phenomena. Left sided failure results from myocardial causes that place a burden on the left ventricle, such as aortic valve disease, hypertension, coronary disease with myocardial infarction or ischemia, infectious myocarditis (particularly rheumatic fever), beri-beri, thyrotoxicosis, extreme tachycardia, anemia, and mitral insufficiency. Right sided failure develops from myocardial causes that produce a right ventricular strain, such as that following a chronic left ventricular failure, mitral stenosis, pulmonary fibrosis or endarteritis, pulmonary valve disease, infectious

myocarditis (chiefly rheumatic), malnutrition, anemia with fatty infiltration, and tricuspid regurgitation. The obstructive causes for a right sided failure are tricuspid stenosis, and acute or chronic constrictive pericarditis.

The signs and symptoms of left sided failure are dyspnea with effort, or paroxysmal dyspnea, which may or may not be associated with asthma, occasional cough, and blood tinged frothy sputum, and this necessitates differentiation from intrinsic pulmonary disease or bronchial asthma. The heart is enlarged; the patient is fatigued, orthopneic, and cyanotic; basal rales are heard, a gallop rhythm is usually found, and generally murmurs are present. If this condition continues right sided failure supervenes with subsequent upper abdominal discomfort from hepatic congestion, engorgement of the cervical veins, and hydrothorax, ascites, and dependent edema develop. The venous pressure becomes markedly increased and the circulation time is prolonged. A simple method of estimating venous pressure is to place the patient in a sitting position and hold the arm in a dependent position so that the superficial veins become filled. The arm is then raised to the level of the right auricle and the duration required for the disappearance of the venous engorgement is noted. Normally the veins empty promptly, but when the venous pressure is increased the engorgement frequently remains until the extremity is raised above the zero pressure level, or the level of the right auricle.

Intelligent and expeditious handling in the case of cardiac failure is imperative. If there is pronounced pulmonary edema then tracheal bronchial aspiration, by means of a catheter and suction, may be necessary to prevent fatal anoxia. Oxygen must be given in as nearly 100 per cent atmosphere as possible to relieve the deficient arterial oxygen saturation of the blood. This is best done by the oronasal mask, or if this is not available, the intranasal catheter. Congestion and edema of the lungs is diminished by application of tourniquets to all four extremities, thus trapping venous blood in the periphery. This causes decreased filling of the right side of the heart with consequent lessening of the left ventricular load, and the resultant reestablishment of equilibrium in the pulmonary and systemic circuits. Venesection or phlebotomy have a similar effect, the amount of blood withdrawn being determined by the indications in each case. A large needle should be used and the blood withdrawn rapidly, the quantity varying from 250 cc. to 500 cc. This procedure is contraindicated in severe anemia, and if done repeatedly an anemia is likely to be produced.

Morphine, gr. ¼ or 15 mg., is one of the most important drugs in the treatment of cardiac failure. It allays the great anxiety of the patient, interrupts the pulmonary reflexes, suppresses the cough, and causes the marked sudoresis and pallor to vanish. The blood pressure then returns to normal, the increased parasympathetic tonus is alleviated by atropine sulphate, and the cardiac asthma greatly subsides. It is in these cases that the intravenous administration of crystalline glycosides of digitalis, as digilanid C or lanatosid C, 1½ to 2 mg., or strophanthin ½ mgm., is indicated. Strophanthin should not be given, however, if the patient has received digitalis within the two preceding weeks. Digitoxin (Digitaline Nativelle) is an excellent form of digitalis to employ in emergencies and for a digitalis body, it is unique in that it is completely absorbed from the intestinal tract. Therefore, the oral dose for full digitalization is almost identical with the intravenous dosage, 1.25 mg., or a total of 3 cat units, which is equivalent to 15 cat units of digitalis leaf or tincture.

ADAMS-STOKES SYNDROME

Adams-Stokes syndrome is most terrifying to the patient and those present when it occurs, especially the severe form. Various gradations of the symptom complex are evident, ranging from mere consciousness of a slow forceful beating of the heart, to giddiness, faintness, unconsciousness, muscular twitchings, convulsions, and even death. The seizures are precipitated by a complete heart block and delay in development of an idioventricular rhythm by the ventricles, so that a cerebral ischemia results from a prolonged ventricular diastole. The administration of epinephrin subcutaneously or intracardiacally when the heart stops beating is indicated as a heroic measure. Previously barium chloride and thyroid extract were used prophylactically, but belladonna, and especially ephedrine and epinephrine have been found most suitable. Paredrine hydrobromide has been used also. These drugs act by preventing a stoppage or slowing of the idioventricular pacemaker which produces the attack. Epinephrine in oil, ½ cc. intramuscularly, is an excellent means of establishing a reservoir that can be massaged whenever absorption is desired. It may be injected twice daily when the spells are frequent, or atropine, or subcutaneous epinephrin, every two to four

hours may be given. Caution must be used with epinephrin since it must be definitely established that a block is the cause of the "Adams-Stokes" attack, and not a paroxysmal tachycardia, in which case epinephrin would be hazardous.

CAROTID SINUS SYNDROME

It is well to mention here the carotid sinus syndrome, especially since recently it was discovered that some high school students were attempting to "hypnotize" others by pressing on nerves in their necks thereby producing "brief black-outs." This practice is dangerous, especially when an over-irritability of the carotid sinus exists, and should be stopped at once. Spells of dizziness, fainting, and occasionally convulsions may occur as a direct result of such a procedure. During the attack there is a fall of the arterial pressure, and a pronounced slowing of the cardiac rate, or even a sinus standstill. In individuals with a hypersensitive carotid sinus the attacks may follow without any apparent cause, or after merely turning the head to one side or the other, or subsequent to an emotional upset, or by pressure over the carotid sinus by a neighboring lymph gland or tumor, etc. In elderly sclerotic persons contralateral hemiplegia or mental aberration may result.[4]

Carotid sinus irritability occurs more frequently in those with arteriosclerosis or hypertension, but may be present without such changes. In testing for carotid sinus irritability pressure should be exerted over the common carotid artery at its bifurcation, where a local prominence of the artery is found. The pressure should be applied for about twenty seconds, first on one side, then the other. A positive result is accompanied by syncope usually with fall of blood pressure or slowing of the heart.

Syncope resulting from carotid sinus irritability may be prevented by the administration of 25 to 50 milligrams of ephedrine sulphate, two to four times a day. At times atropine or tincture of belladonna (10 drops three times a day) may inhibit the attacks. If the cause is a tumor, local excision is the treatment. Resection of the nerve plexus from the carotid artery has been found to be curative in a few cases.

In this paper the more common cardiac emergencies have been presented with their most pertinent diagnostic criteria, and the immediate indicated therapy given.

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54th Annual Meeting

OKLAHOMA STATE MEDICAL ASSOCIATION

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SULFONAMIDE ANURIA*

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OKLAHOMA CITY, OKLAHOMA

Renal complications that develop during the administration of the sulfonamide compounds occur all too frequently, despite warning as to their danger. It is well known that adequate fluid intake and alkalization will prevent the majority, but too often this is neglected or even impossible to accomplish. Climactic factors will negate to a large extent such precautionary measures.

In the tropics crystalluria and hematuria were a very common disability, a clinical phenomenon observed by many medical officers who practiced urology in the Pacific. Undoubtedly the heat and humidity produced an excessive dehydration and resultant oliguria that favored the formation of urinary crystals. Probably for this reason the administration of the sulfonamide compounds in these areas was followed by a higher incidence of precipitation of sulfonamide crystals than that observed in the more temperate zone. Parallel to this, in our middle west in summer as the weather approaches equatorial temperatures, I believe we can expect a rise in incidence of renal complications with sulfonamide therapy unless precautionary care is exercised.

During a two-year tour of duty in the tropics, I saw many instances of sulfonamide reactions of the kidneys. In one hospital I found it necessary to perform ureteral catherization on twenty-four such patients to reestablish urinary drainage. In two instances pyelostomy was resorted to because of failure to catheterize sulfonamide packed ureters. It is noteworthy that of these twenty-four cases, all but five gave a history of sulfadiazine administration.

It is my impression that sulfadiazine is the more dangerous drug as far as production of renal complications. This observation has further been substantiated from personal experience gained from the treatment of gonorrhea in an active venereal ward prior to the era of penicillin therapy. In this particular hospital, sulfathiazole was the drug of choice for the routine therapy for this disease. When failure was encountered with sulfathiazole a change would be made to sulfadiazine or sulfapyridine. Frequently these preparations, of which sulfapyridine was the worst offender, would produce hematuria, in contrast to the relative nontoxicity observed from sulfathiazole administration.

Renal complications following the use of sulfadiazine usually manifest relatively early, that is, within the first five days. The first sign of upper urinary tract sulfonamide crystalluria is blood in the urine. At first in microscopic degree, it soon becomes a gross hematuria. Loin pain and abdominal distress along the course of one or both ureters is a symptom that signifies ureteral irritation and possible urinary blockage of the tract. This may be followed by the observation by the patient that less urine is being passed per bladder. If ureteral obstruction is complete and prolonged, the intensity of the loin pain is increased and the patient becomes more toxic with nausea and vomiting. Typical uremic symptoms may develop with delirium and coma followed by death unless urinary function is restored.

In the majority of instances the pathology of sulfonamide blockage is not unlike that of any other type of calculous disease producing ureteral block. The site of the obstruction is most commonly in the lower third of the ureter, particularly the intramural portion. It consists of an agglutinated mass of crystals and blood in a plastic cast of the ureter that completely dams the free passage of urine into the bladder. When one is able to pass by this obstruction with a catheter it will be discovered the accumulated urine above this obstruction will flow from the catheter relatively clear and under pressure.

The treatment of sulfonamide anuria is fundamentally preventive. Such crisis may be prevented by an adequate fluid intake to assure an output of over 1500 cubic centimeters fluid daily and sufficient alkalinizing

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agents to maintain a hydrogen ion concentration on the alkaline side. However, in some individuals there seems to be a tendency toward renal precipitation of sulfonamides despite such precautions.

When actual anuria occurs it is absolutely necessary that cystoscopic examination be made and an attempt to facilitate drainage by ureteral catheterization. Usually one will observe the ureteral orifice swollen, hemorrhagic, and surrounded by bullous edema. The crystalline mass may be seen extruding from the orifice as a dark grayish substance. In most instances one can thread a catheter by or through this accumulation and the acute hydro-ureter and hydronephrosis is immediately relieved. Obviously one should allow this catheter to stay in as a temporary drain until the sulfonamide accumulation in the body tissues has been eliminated. Frequent irrigation with warm water will usually keep the catheter open.

When both ureters are blocked, an attempt should be made to catheterize both sides. Although desirable, it is not urgent to pass catheters up both sides. If the kidneys are normal in function, one side often will effectively take care of urinary function for the time being. The other will spontaneously unblock itself of the crystals in time.

Occasionally ureteral catheterization is impossible, the ureter being so densely packed with material that despite repeated manipulations catheters cannot be passed to the renal pelvis. In such instances pyelostomy or ureterostomy is the only solution. Anuria that continues over forty-eight hours is an indication to consider surgical intervention. The operative procedure is simple. The distended pelvis and upper ureter is exposed through the usual loin incision. There is no necessity for mobilization of the kidney. An incision in the pelvis or upper ureter will relieve the pressure, and a large ureteral catheter threaded through this incision, into the pelvis, will temporarily maintain urinary function. Only one side needs to be operated as this will be sufficient to maintain urinary function. After a few days it will be discovered that urinary flow from the opposite kidney will spontaneously be restored. Temporizing measures in the face of total anuria are dangerous. Surgery should be resorted to before the uremia becomes severe and the patient critically toxic.

BRUCELLOSIS IN CHILDREN*

G. R. RUSSELL, M.D.

TULSA, OKLAHOMA

In 1887 Sir David Bruce,[1] an English bacteriologist, isolated an organism from the blood stream of two patients on the Island of Malta. He termed this organism "Micrococcus melitensis" and by animal inoculation was able to make it fulfill all of Koch's postulates. This and subsequent work definitely established the organism as the etiological agent for outbreaks of protracted remittent fever on the island and in other localities of the Mediterranean area.

In 1897 Bang, a Danish veterinarian, discovered an organism termed by him "Bacillus abortus" and established it as the apparent cause of infectious or contagious abortion of cattle, also called "Bang's Disease." These organisms were isolated from the fetuses and uterine discharges of cows that had aborted and were definitely established as the cause of the disease. As time has passed, this disease has been found second only to tuberculosis in its seriousness among cattle, and also affects goats, sheep, and hogs in the United States.

Since Bruce had discovered a micrococcus and Bang a bacillus in two widely separated parts of the world, no one suspected for many years that there was any connection between the two. In 1918, however, Evans,[2] working with the bacteriological flora of milk in the Hygienic Laboratory at Washington, discovered that these two organisms were indistinguishable morphologically and culturally. Furthermore, the immune serum from either agglutinated both organisms and differentiation could be made only by means of

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agglutination absorption tests. Further work by Meyer and Shaw,[3] and other investigators, has shown that there are many strains of the organisms, but they may be divided into three main types on the basis of the animal infected. Since Bruce was the original discoverer, the term given to the group of organisms as a whole has been "Brucella" with additional designation for each variety or type: Brucella melitensis (goats), Brucella abortus (cows), and Brucella suis (hogs).

It is not unlikely that these three types of Brucella have a common origin and that specific biological or metabolic characteristics for each species have arisen as a result of adaptation to different hosts. The differences in the species must, however, be kept in mind by clinicians because they are frequently reflected in the severity of the disease and also in the results of therapy. In the experimental production of the disease in human volunteers, Morales and Ottero found only two doses of the suis strains were required to produce infection by ingestion, whereas seven consecutive doses of a highly virulent abortus strain resulted only in a mild infection. Of the forty volunteers, ten contracted brucellosis, six through the abraded skin and four by ingestion.

While cattle, swine, and goats constitute the large reservoir for Brucella, other animals are known to be naturally infected. These include sheep, horses, mules, deer, buffaloes, dogs, rabbits, and poultry. It must also be remembered that each of the species may reside in hosts other than that for which it is named. Thus an epidemic of human disease due to Brucella suis has arisen from the ingestion of raw cow's milk.

Although human beings may excrete viable Brucella in the feces or urine, no authentic human-to-human infection has been recorded, according to Spink and Hall.[4] Brucella organisms have been recovered from the milk of a nursing mother. Biting fleas and mosquitoes have been shown to transmit the disease experimentally, but no natural spread has been traced to this source. Another possible route of infection is through the respiratory tract following the inhalation of dust containing Brucella. Micro-organisms may remain viable in shaded dust or soil for two months. Monkeys have been experimentally infected following the inhalation of dust containing Brucella melitensis. Brucella organisms have been found to be viable after two months in Roquefort cheese, four months in refrigerated butter, and ten days in refrigerated milk. Brucella suis has withstood refrigeration in hog spleens at −10 degrees F. and in meat-curing brine for forty-five days.

Various observers have placed emphasis on one type or the other as being significant in the human disease. It is possible that Brucella suis in some reports is noted because it is cultured more readily. Of course, on the Island of Malta, Brucella melitensis gains the greatest importance due to the heavy ingestion of infected goat's milk. Spink and Hall, at the University of Minnesota Hospitals, show that all of the 35 cases reported were probably due to Brucella abortus. Twenty-two, or 63 per cent, of the patients consumed raw milk from infected cattle and seven, or 20 per cent, handled infected material from aborting cattle.

CLINICAL MANIFESTATIONS OF BRUCELLOSIS

The usual procedure in considering the clinical features of brucellosis is to divide them into acute and chronic phases based upon the time element involved. The acute stage is usually ushered in by temperatures which may either be high and sustained, as in typhoid fever, or intermittent, as in pyogenic infections. Such onsets may resemble acute respiratory infections or "influenza" or they may have intestinal symptoms and a diagnosis of "intestinal flu" is made. The acute phase may terminate the disease or it may continue on into a chronic phase. In other cases the disease may be insidious in onset and ill-defined symptoms persist over a long period of time. As Evans has pointed out, many of these chronic cases in adults have been diagnosed neurasthenia due to the multiplicity of physical and mental complaints with few or no localizing signs. These are usually the ambulatory type and are not sick enough to be considered bed-ridden and yet they are not well enough to be considered completely normal.

Still another group includes what are called the subclinical infections by Spink and Hall. These individuals have evidence of tissue sensitivity and serologic tests may reflect an invasion of the body tissues by Brucella. There are several reports in the literature of subclinical infections occurring in epidemics of brucellosis involving individuals who have ingested contaminated milk. These subclinical or ambulant cases may have a demonstrable bacteremia. It is possible that periodically these cases have more manifest forms of the disease and with more advanced methods of diagnosis may be recognized as active disease.

The cases to be presented today consist of 141 children varying in age from 15 months to 14 years. The idea of the search was suggested during the past two years by the letting down of the bars to raw dairy products due to rationing and a scarcity of red points, and by the presentation by the parents of the occasional child with symptoms similar to their own and diagnosed by one of my colleagues as probable ambulant forms of brucellosis. In general, with the exception of a very few patients which will be discussed later, they were not acutely ill and I, on occasions, wondered why they were there as often there was no demonstrable pathology.

HISTORY

SYMPTOMS IN 141 CASES OF CHILDREN WITH POSITIVE SKIN TEST FOR BRUCELLOSIS

Fever — 123 or 87%	
Vague Symptoms:	
Leg ache	50 or 45%
Gastro-intestinal	42 or 30%
Nervousness	20 or 14%
Swollen glands	18 or 13%

HISTORY OF RAW DAIRY PRODUCTS

88 CASES or 62% including 2 cases of raw goat's milk

Cases from small towns or rural communities	Outlying Sections of Tulsa
36	15

In 123 cases out of the 141 there was a definite history of fever usually not high (up to 99.5 or 100° orally) and occasionally up to 101 or 102° F. and usually of the remittent type. Vague pains of the skeletal system, chiefly leg ache and backache, were presented in 50 cases with headaches in 13. Forty-two cases gave a history of vague gastro-intestinal symptoms, usually pain not localized, and occasionally vomiting and diarrhea, but more often anorexia and constipation. There was a history of swollen glands in 17. There was a history of nervousness in 20. Eighty-eight cases gave a definite history of using raw or unpasteurized dairy products including milk, cream, and country butter; two, unpasteurized goat's milk. It was interesting, in connection with the history of unpasteurized dairy products, that 36 cases came from smaller towns and rural communities around Tulsa in northeast Oklahoma, and 15 from outlying districts of the city where it is common practice to keep a cow. The duration of the symptoms varied from a few weeks up to several months and a year or more.

PHYSICAL FINDINGS

The physical findings were also in general not remarkable. Several of the children had enlarged tonsils and adenoids but none were inflamed or obviously infected. Several also had positive tuberculin reactions, but x-rays of the chest showed no evidence of active lung disease. The cases presenting gastro-intestinal symptoms showed no localized tenderness or masses and x-ray series were negative for pathology when taken. There was a tendency for the group to be underweight, 47 showing an average of a minus seven pounds, according to the Baldwin-Wood standards. Eighty-three of the cases were males and 58 were females.

PHYSICAL FINDINGS AND LABORATORY

Anemia (Under 12 Gms. Hb. or Under 4,000,000 RBC)	66 Cases or 47%
Underweight Average — 7 lbs.	47 Cases or 33%
Sedimentation rate of blood: 109 Cases with average 25 mm. in 1 hr.	
Huddleson's Aggutination Test:	
Positive 42	Negative 62

AGE AND SEX INCIDENCE

AGE

Under 2 yrs.	*2 to 6 yrs.*	*6 to 14 yrs.*
3 or 2%	38 or 27%	100 or 71%

SEX

Male	*Female*
83 or 59%	58 or 41%

LABORATORY FINDINGS

Sixty-six cases showed some degree of lowering of hemoglobin determination below 12 gms. and RBC below 4,000,000. The blood sedimentation level was increased to an average level of 25 mm. per hour in 109 cases. (Normal 10 mm. per hr.) Huddleson's rapid agglutination for Brucella abortus was positive in varying degrees in 42 cases and negative in 64. Blood cultures were not run routinely, but were positive in two cases which were hospitalized and will be discussed later. The opsonocytopagic index was helpful in establishing the diagnosis in one case, but these also were not run routinely.

BRUCELLOSIS SKIN TEST REACTION IN 141 CASES

+	++	+++
66 or 47%	63 or 45%	12 or 8%

RESULTS OF VACCINE THERAPY IN 29 CASES

Degree of Improvement

Marked	*Moderate*	*Slight*	*None*
9 or 31%	11 or 37%	7 or 24%	2 or 7%

The brucellosis skin test was positive in varying degree in all 141 cases, which was the basis for the selection of the cases and was in turn done on the basis of the history and physical findings. The technique used was the intradermal injection of 0.40 cc. of a bacterial suspension of Brucella melitensis, abortus, and suis containing six billion killed bacteria per cc. and diluted with an equal amount of sterile normal saline. The reading was taken in 48 hours except in a few instances which appeared at the end of five days and was graded according to the size of the papule and surrounding erythema.

Sixty-six gave a + reaction, sixty-three a ++ reaction and 12 gave a +++ reaction. No ++++ reaction or necrosis appeared.

LOCALIZING SIGNS OF BRUCELLOSIS

The following is a list of associated conditions observed in this series of patients. The writer has not assumed that these conditions were necessarily due to brucellosis, but due to the protean manifestations of this disease, it must be considered as a possible, or, in some cases, a probable etiological factor.

OCULAR MANIFESTATIONS

One patient, nine years of age, was referred by an occulist because of blindness in the right eye. He described the condition as a large central area of chorio-retinitis responsible for the almost complete loss of vision. This patient gave a history of having consumed country or unpasteurized butter. He compained of headache, legache, and fever. His skin test for Brucella was positive and the blood sedimentation rate was 53 mm. in one hour. Following the second injection of Brucella vaccine, he developed a moderate degree of swelling of his left leg and ankle, and a temperature of 102° F. The swelling and fever lasted for two days and then receded.

A second associated eye condition was a diffuse bulbar and palpebral conjunctivitis and a hazel-nut sized enlargement of the regional lymph node over the left parotid gland, simulating the so-called Perinaud's conjunctivitis. He had consumed raw milk on a farm in Missouri, and ran periodic fever. His skin test was positive for brucellosis and his agglutination test up to a 1-80 dilution before treatment.

PULMONARY MANIFESTATIONS

Two cases in this series, brothers, developed high temperatures, cough, and physical and x-ray findings typical of virus pneumonia, with low white blood counts and failure to respond readily to penicillin or sulfonamide therapy. In view of the previous findings of a positive skin test for brucellosis, and the history of consuming raw milk on their farm, blood cultures were run during the hospital stay and Brucella abortus was isolated from the blood stream in one case.

LYMPHADENOPATHY

There was a vague history of enlarged glands in 17 cases, but lymphadenopathy was not an outstanding feature, nor was splenomegaly, with the exception of three cases. Two of these cases developed a large walnut-sized nonsuppurative area in the right anterior axillary area almost identical in location. One of these cases also developed a thrombocytopenic purpura and hematuria with diffuse hemorrhages into the skin and mucous membranes. His hemoglobin fell to 8.0 gms. and he had to be hospitalized for transfusions. His skin test was markedly sensitive to Brucella, his blood agglutination was positive in a high titer, and Brucella was isolated from his blood stream. With vaccine therapy his blood sedimentation rate dropped from 27 mm. per hour to normal in one month's time, his blood agglutination titer rose to an even higher level, and he has been free from symptoms for the past six months.

The third case showed several hazel-nut sized lymph nodes in both groins, but no generalized lymph node enlargement.

SKIN LESIONS

One of the cases which also had the Perinaud-like conjunctivitis mentioned above developed numerous pea-sized red papules on the extensor surfaces of both legs, which later became blue and then brown, typical of erythema nodosum. The coccidiodin skin test was negative. Two cases developed purpuric lesions, the one mentioned above, and one other less severe in nature.

SPONDYLITIS

One case, 21 months of age, gave the history of having "flu" four weeks before and failure to walk since then. He had been diagnosed a probable anterior poliomyelitis in another city. On physical examination, it was evident that he moved his legs readily and muscle tone and reflexes seemed to be normal, but the chief trouble was apparently pain and rigidity of the spine when he tried to stand or even sit. X-ray examination of the spine showed no apparent disease and the tuberculin test was negative. With the history of living in a rural community and consuming raw milk, a Brucella skin test was found to be decidedly positive and the Huddleson agglutination test positive in a 1-320 dilution. The child showed complete recovery with vaccine therapy.

JOINT MANIFESTATIONS

There were two cases of interest of this type. One, a boy of 12, came in with history of pain and swelling in both hands and both ankles, so that he could no longer milk the cows, and in fact, could hardly walk. He had been running some fever, and the salicylate test showed no improvement. There was a definite history of a cow losing her calf in

the herd which he milked, and his Brucella skin test was positive. His sedimentation test showed a level of 30 mm. per hour but his Huddleson reaction was negative. In view of the history and positive skin test, he was placed on vaccine therapy with complete recovery and is back milking the cows. An interesting feature about this case was that several months intervened during vaccine therapy before positive agglutinins developed in the blood and appeared much later than the evidence of clinical improvement.

The second case with joint manifestations might be called the enigma of this series. This boy is a farmer boy, raised on raw milk, and has been followed by the writer during the past eight years. He was first seen at the age of four and at that time showed large bilateral spindle-shaped swelling of both knees, splenomegaly and cervical lymph node hypertrophy, and was believed to belong in the group of chronic arthritis first described by Still. He has had numerous periods of exacerbations and remissions, and has required transfusions for secondary anemia. With the interest in brucellosis in the past year, a skin test was found positive for Brucella and his blood agglutination test was positive in a high dilution. His opsonocytophagocytic test showed a high phagocytic activity of his leucocytes. Despite prolonged vaccine therapy, he has recently had a remission with high temperature, chills, and diffuse sweating. These were apparently exaggerated by blood given for his anemia. He is at the present time under hospital observation. It would appear that sulfadiazine with a blood level of approximately 25 mg. per cent has shortened this remission. Penicillin for one week's time showed absolutely no benefit. The roentgenogram of this case showed the bones of the wrist to be rarefied and to have localized "punched-out" areas in the os lunati and os capitate. The knee joints, ankle joints, and hip joints showed signs of rheumatoid arthritis with rarefied bones and fine trabeculations. There were slightly irregular areas involving the superior and inferior surfaces of the bodies of the dorsal and lumbar vertebrae. There was thickening and haziness along both sacro-iliac joints. Another unusual feature of this case has been the diffuse dusky red appearance of the posterior pharynx with evidences of excessive lymphoid tissue and an almost constant hacking unproductive cough. The tuberculin test has been negative on several trials.

ALOPECIA

One case of this series was seen at the age of five and one-half years, presenting a history of complete alopecia for three years' time. During his later infancy he had been given raw goat's milk because of a suspected allergy to cow's milk. He had had periods of fever which had been called sinus infections, and his tonsils and adenoids had been removed. His skin test was positive for Brucella and the blood sedimentation level was 26 mm. per hour. He was given diluted Brucella vaccine twice weekly in increasing doses for three months' time, and the sedimentation rate dropped to 13 mm. per hour and agglutinins appeared in the blood for Brucella. There was a gradual reappearance of hair, and a complete crop of hair developed on the eyebrows and scalp.

VACCINE THERAPY

This report is entirely of a preliminary nature with regard to the value of vaccine therapy. A disease which is so insidious in its onset, and so prone to remissions, requires a longer period than the scope of these observations for lasting conclusions. The results as mentioned in some of the case reports have been very encouraging and at times startling. The policy has been to keep all cases on a control period of one or two months, observing the temperature, sedimentation rate, and physical signs. Where there has been a spontaneous improvement in these factors, it has not been recommended, as it is probable the natural immunological body factors are accomplishing the desired recovery as seems very common, if brucellosis is as wide-spread as it appears to be.

The technique for vaccine therapy when chosen was as follows: The same bacterial suspension used for the skin test containing six billion mixed Brucella abortus, melitensis, and suis organisms per cc. was diluted 1-1000, 1-100 and 1-10 times. The vaccine was given twice weekly starting with 0.1 cc. of the 1-1000 and increasing by 0.1 each time until the heaviest concentration had been reached. When reactions had occurred, the step-up was not continued. In the opinion of the writer, strong reactions recorded by many observers are not only not necessary, but probably not desirable.

The benefit of the therapy has been judged on the basis of improvement in the symptoms, in the fever, in decrease in blood sedimentation level, and in increase in blood agglutinins. In nine cases, there appeared to be a marked improvement and in 11 cases a

moderate improvement, in eight cases a slight improvement, and in two cases no improvement was evident. One of the cases showing no improvement was the chronic case of apparently several years' duration. It is possible that the eight cases with slight improvement will later develop increased blood agglutinins, in which case, the relative benefit could be considered increased on the basis of the present evaluation. Additional cases receiving therapy will be reported later. In cases which do not respond to the present vaccine, the use of Huddleson's filtrate brucellin will be tried.

MISCELLANEOUS ASSOCIATED CONDITIONS

Alopecia	1
Erythema Nodosum	1
Thrombocytopenia	2
Pneumonia	2
Nosebleeds	3
Osteomyelitis of rib	1
Perinaud's Conjunctivitis	1
Fainting Spells	2
Severe Arthritis	2

COMMENT

The writer is not prepared to contend at this time that all 141 cases here reported were active cases of brucellosis. But all 141 by the nature of their selection had a tissue sensitivity to Brucella vaccine as manifested by a positive skin test. The existence of evidences of infection in a high percentage of cases, as shown by physical signs and symptoms, by fever, and by high blood sedimentation level, is indisputable. The exclusion of all other known forms of infection, coupled with the high incidence of exposure to raw dairy products and the unity of the symptom complex, plus the tissue sensitivity to Brucella, make a good case for the establishment of the diagnosis of brucellosis. The final and conclusive test is the isolation of viable organisms from the patient's blood stream. A great many blood cultures are to be run, and it is interesting that in the past two weeks, three cases of the chronic or ambulant type of brucellosis of the garden variety have shown positive blood cultures for Brucella organisms which have been readily agglutinated by immune serum.

The Brucella skin has often been considered a form of allergy analagous to the tuberculin skin test, in which case, a positive reaction might indicate either present or past infection. As with the tuberculin test, the younger the individual showing it, the more likely its significance for present activity. Angle and others have found 9 per cent positive skin test for Brucella in 7,122 school children of Kansas City. When the group was analyzed to include only those in outlying districts of the city, the percentage rose to 18.

Benning,[5] on the west coast, has offered the postulate that the skin test for Brucella is not an allergic tissue sensitivity in the usual sense, but is analagous to the Schwartzman phenomena, and is due to the interaction of circulating endotoxin from living organisms in the body and the test substance locally. As further substantiation of his point, he shows the disappearance of the skin reaction at the time of recovery. This work requires further substantiation, but if proven, will make the skin test for Brucella an even more significant test for active disease.

CONCLUSIONS

1. Contrary to frequent expressions in the literature, it would seem that brucellosis is not an uncommon disease in childhood.

2. It is possible that war food rationing with increased consumption of raw dairy products has added to the incidence of the disease.

3. More stringent laws are necessary for the regulation of the sale and use of raw dairy products.

4. The blood sedimentation level has been found to be a valuable aid in following the activity of brucellosis infection.

5. The writer would suggest the investigation of the use of Brucella prophylactic vaccine, perhaps as a combination with typhoid and paratyphoid, as tried by Kolmer.[6]

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GASTRIC RESECTION FOR CARCINOMA OF STOMACH KRONLEIN TECHNIQUE*

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The views of the individual surgeons concerning the choice and the general technique of procedure in the various surgical diseases of the stomach and duodenum often differ materially, depending entirely upon the mechanical skill of the operator, the lesion in question, and the surgical procedure to be enacted. Many of the opinions expressed herein consequently may have a decided personal slant — not an expression of ego but an evolution, and a breaking down possibly, of several techniques in perfecting the procedure which I feel, in my hands especially, I am most capable of performing under certain conditions.

The circumstances which may be presented in any one given case may be entirely altered in the next clinically similar case although apparently both present the same surgical problems, and ultimately both must be operated toward the same end, that is, a perfectly functioning gastro-intestinal tract or as nearly perfect as reconstruction surgery can make it.

Resection is considered primarily in gastric carcinoma and in gastric ulcer. Opposed to resection, however, are the advocates of excision, gastro-enterostomy, and gastroduodenostomy or the simpler procedure of radical pyloroplasty with excision. All of these procedures do have definite places in gastric surgery under certain proven conditions, although, as a general rule, and in most instances, these operations are both inadequate and ill-advised. In those intractable and long-treated gastric and duodenal ulcers not amenable to conservative treatment, the operative procedure of choice is resection of the ulcer-bearing area of the stomach along with a fair portion of the duodenum. Gastro-enterostomy, excision, or any type of modified exclusion operation should not be considered.

Many difficult problems may be encountered, although where technically possible, ulcers of both the stomach and duodenum should be removed by resection. The resection should include at least one-third of the stomach and the pyloric antrum. This procedure has been adopted primarily due to the fact that where the pyloric antrum is not widely resected, there remains, theoretically at least, a stimulus to the acid-producing glands of the fundus which ultimately could lead to recurrent development of ulcer, especially in those patients having an ulcer tendency.

In all cases the Billroth (1) type procedure — stomach to the duodenum — would be the utopian surgical procedure. The gastro-intestinal tract would then be more nearly perfectly reconstructed. Unfortunately, and in face of our desire to do this, our past experience has shown that this can be done safely and satisfactorily in only a small percentage of cases. The pitfalls encountered in this procedure are evident. The fact that the posterior wall of the duodenum has no peritoneal covering makes suturing to this area hazardous. The stomach must be freed and prepared for such an anastomosis in such way that there will be no unusual tug on the suture line. This cannot always be done, especially where adequate resection must be employed. Consequently the operation of choice in most cases is some form of Billroth (2) procedure with certain modifications to suit the individual case. The technique of Kronlein as adapted to the Billroth (2) type resection has been most satisfactory in my experience.

The problem of reconstructing the continuity of the gastro-intestinal tract is of minor importance when compared to the resection of the lesion. The resection of the stomach, the removal of adjacent glands and clean excision of adjacently involved structures are, of course, of major significance. To satisfactorily complete both the resection and the final reconstruction operation requires not only an exacting knowledge of the anatomy and pathology involved, but also a visual mechanical instinct as to the proper

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physiological functioning of the completed procedure.

There are four fundamental factors which govern the operation wherein malignancy or a suspected malignancy involves the stomach, namely:

(1) Location and extent of the lesion.

(2) Extent of the glandular involvement of the gastrocolic and gastrohepatic omenta.

(3) Metastasis to the liver.

(4) Invasion of the retroperitoneal glands in the region of the head of the pancreas.

These problems must be dealt with systematically before any attempt is made to proceed with the operation.

In the first instance, if the lesion is high up on the cardiac end of the stomach, complete resection in all probability would be the surgical procedure of choice. The entire stomach can and is occasionally resected. In most cases, however, of a high gastric lesion, the symptoms have been so late in developing and the lesion has become so extensive that by the time the patient first comes under surgical consideration the case is actually inoperable, even though the general physical condition of the patient may appear to be very good. In the second instance, glandular involvement of one or both gastrohepatic and gastrocolic omenta, if not too extensive, can be successfully handled by wide dissection. This depends to a great extent on the skill, surgical judgment, and experience of the surgeon. In the third instance, metastasis to the liver definitely precludes anything more extensive than the simplest of palliative procedures.

The fourth factor taxes the skill, experience, and judgment of even the most seasoned upper abdominal surgeon. In this instance a fine knowledge of clinical pathology, a well-defined idea of the intricate anatomical problems involved, together with more than average surgical dexterity would be a handy acumen to readily determine what to do, or better, what not to do. Glands or masses of glands in this area that grossly cannot be removed are definite contraindications to a radical resection.

Once the above four factors have been definitely and satisfactorily disposed of and a resection has been decided upon, we must then elect the procedure to be followed. This in itself is not so simple. First a definite point must be selected for the gastric division. At this point both the gastrocolic and gastrohepatic omenta may be divided so that the stomach can be easily lifted forward. Working from the left side of the operating table, the surgeon can insert the index finger of the right hand through the original opening to the gastrohepatic omentum and thereby free the structures around the pyloric end and distal one-third of the stomach. This maneuver saves time in the resection and definitely precludes injury to the middle colic artery, which may be pulled closely against the posterior wall of the stomach following inflammatory reaction in this area. This greatly facilitates the further division of these structures, the gastrohepatic and gastrocolic omenta, which may be effected by multiple double ligatures or clamps as the surgeon prefers.

When the division of the gastrohepatic and gastrocolic omenta have been completed, the stomach is then divided between soft clamps. Both ends are cauterized with alcohol and covered over with protecting packs, exercising due care not to contaminate the field. The lower segment which is to be resected is then elevated so that a clear exposure of the posterior wall and structures beneath are in evidence. This procedure facilitates freeing the growth from the region of the head of the pancreas and augments freeing the first part of the first portion of the duodenum. If the duodenum can be successfully freed for at least one to one and one-half inches, then there is no reason why a satisfactory closure of this segment cannot be effected. I personally prefer the Furniss clamp method of closure of this segment, the clamp being applied perpendicular to the long axis of the body. The mucous membrane is then closed in such manner that the ultimate suture line is transverse to the long axis of the body, thus minimizing the unprotected area on the posterior wall which is not primarily protected with peritoneum. Three layers of intestinal chromic sutures followed by one layer of interrupted platted silk are used for this closure. An adjacent piece of peritoneum is then pulled over the stump which is then allowed to fall back to a normal position of rest.

The remainder of the procedure may be completed in one of several manners. A retrocolic or an antecolic anastomosis may be effected, although in most instances the antecolic procedure is the method of choice. The union with the jejunum is preferably isoperistaltic though an antiperistaltic anastomosis may be considered in some cases. The jejunal loop may be long or it may be short.

The short loop has been more satisfactory in our experience. If the operator prefers a long loop, then he should consider the advisability of an entero-enterostomy at the most dependent portion of the loop. Unless emptying is adequate it is entirely possible that the accumulated back pressure may be sufficient to disrupt the duodenal closure thereby resulting in a general peritoneal infection or, at the best, a duodenal fistula — a most trying surgical complication.

Having decided as to the most workable of the above procedures in each case, the operator then has the choice of several different types of anastomoses. The opening must be adequate and no attempt should be made to close such a portion of the stomach as will interfere with normal function. It is best to keep in mind that regardless of the size of the anastomosis the actual opening cannot exceed the diameter of the anastomosed intestine. Consequently, and in view of this fact, I have elected to use in practically all cases the Kronlein modification of the Billroth (2) procedure whereby the opening in the jejunal wall approximates the entire divided section of the stomach. This anastomosis may be effected by any one of four procedures, namely:

(1) The soft clamp
(2) The Wangensteen thin blade anastomatic clamps
(3) The open type anastomosis
(4) The Furniss aseptic anastomosis

Of the four, the Wangersteen forceps have proved most satisfactory due to the fact that the danger of contamination is lessened through a semi-aseptic type of anastomosis. The union between the stomach and the jejunum is effected by three layers of intestinal chromic sutures reinforced with one layer of interrupted silk.

Once completed the outlet is actually equal to the diameter of the jejunum at the point of anastomosis and not equal to the entire divided end of the stomach.

The technical advantages of the procedure are such that leakage from the suture line, hemorrhage from divided surfaces, or constricted stoma are not encountered. The continuous smooth line suture surface of the anastomosis lends to ease of repair, lessens the operative time, and is not conducive to oedema. Recent study has shown that the anastomosis is such that a rapid emptying through the gastric stoma with evacuation of the stomach contents into the efferent loop is satisfactorily effected. During the past few years, except in rare instances, the above operation has become a standard procedure on our surgical service.

CONCLUSIONS

Taking all factors into consideration, we are inclined to the opinion that:

(1) The procedure is readily adaptable to any type of subtotal gastric resection.

(2) It is a time-saving procedure.

(3) The stoma is adequate, being the full diameter of the anastomosed jejunum.

(4) Obstructive oedema, even in the face of hypoproteinaemia, is rare.

(5) Ease of suturing insures a tight, secure suture line.

(6) Functionability surpasses any other type Billroth (2) procedure which we have used.

(7) Acute angulation of the jejunum is less apt to occur, thereby minimizing the danger of peritonitis or duodenal fistula following duodenal dilatation and back pressure on the duodenal stump.

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RESPIRATORY INFECTIONS

The problem of the environmental control of acute respiratory infections received a considerable amount of attention during the war. It was shown by Robertson and his co-workers of the Commission on Airborne Infections that glycol vapors were highly effective in the sterilization of air. In fact, it was found that a concentration of as little as 1 Gm. of triethylene glycol in several hundred million cubic centimeters of air was lethal for the common pathogens of the respiratory tract and also for the virus of influenza. Further studies on this subject demonstrated that it was possible to exert a decided effect on the content of pathogens in the air of hospital wards or barracks by the proper oiling of floors and bed linen. It would appear that the use of these methods for the environmental control of acute respiratory infections may be of considerable value in cutting down the incidence of gross and secondary infections in hospital wards and in relatively closed institutions.

CLINICAL PATHOLOGIC CONFERENCE

University of Oklahoma School of Medicine

Presented by the Departments of Pathology and Medicine

VERN H. MUSICK, M.D. AND HOWARD C. HOPPS, M.D.

OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: It is not often that we have an opportunity to consider the type of case which Dr. Musick will present today. We are fortunate too in that Dr. Musick has a special interest in this type of disease and further, that he followed this patient very carefully throughout his hospital course.

PROTOCOL

Patient: H. S., white male, age 26; admitted December 27, 1945; died February 27, 1946.

Chief Complaint: Frequent bloody stools, marked tenesmus.

Present Illness: The patient was a plumber's helper and as such, often worked in sewers. Six months prior to admission (eight months prior to death) he had an episode of loose stools which contained blood. Recovery was spontaneous. The present episode began 24 days prior to admission and was ushered in with sudden sharp cramping pain in the epigastrium following the drinking of a glass of water. The following day the stools increased to three or four per day from the usual one or two. The stools became spontaneous, and one night at 3:00 a.m., while on the way to the bathroom he passed gas per rectum and with this a four-inch piece of formless, soggy, clear, gelatin-like material containing blood. For the next week, the stools continued to increase in frequency reaching 15 or 20 per day, liquid in consistency and frequently containing blood. His appetite remained good and water ceased to incite pain. Cramping abdominal pain occasionally preceded the stools. He was then taken to the local hospital and given supportive therapy without improvement. The stools continued to increase in frequency, reaching two or more per hour and of the same character. As mentioned above, he developed progressive anorexia and lost an estimated 40 pounds in weight (from original weight of 182). Mild abdominal pain was also noted upon coughing. No other pertinent history was elicited.

Past History: Measles and repair of left inguinal hernia.

Physical Examination: Revealed a fairly well developed white male with evidence of recent weight loss. He was weak and unable to sit up for very long periods of time. Moderate pallor of the skin and mucous membranes was present. The temperature was 101°, pulse 108, and the blood pressure 126/60. The abdomen was somewhat distended and tympanitic. There was generalized tenderness, most marked over the LLQ. Rebound tenderness was also elicited. Only an occasional peristaltic movement was heard. The remainder of the physical examination was noncontributory. (Note: during the examination, the patient had a liquid stool consisting mostly of red blood with a few small clots and occasional shreds of feces.)

Laboratory Data: Urinalysis on three occasions was not unusual except for specific gravity ranging between 1.002-1.009 and a trace of albumin and innumerable pus cells with clumps on one occasion. The Mosenthal concentration test yielded 480 cc. of urine with a specific gravity of 1.019. The hemoglomin was 12 Gm. on admission, the red blood cell count 3.75 and the white blood cell count 7,550 with 68 per cent neutrophiles and 32 per cent lymphocytes. The hemoglobin varied between 7.5-13.5 Gm., R.B.C.'s between 2.35-4.62 and W.B.C.'s between 7,450-15,800 with equivalent differentials. The eosinophile count was normal, 0-3 per cent. Stool examination did not reveal ova or parasites on seven examinations (four warm stage ob-

servations). Gross blood was present in all stools examined at the laboratory, except on one occasion when the Guiacic test was also negative. The NPN varied between 12 and 40 mgm. per cent. Blood chlorides on one examination were 235 mgm. per cent. The total plasma protein was 4.5 ten days after admission. Two weeks later, it was 7.4 with an A.G. ratio of 3.3/4.1. Three weeks prior to death, it had dropped to 5.1. The sulfasuxadine blood level was less than 2 mgm. per cent on a single determination. The blood Mazzini was negative. Three blood cultures were negative. Agglutination for brucellosis was positive at a dilution of 1:320. Typhoid and para A & B agglutinations were negative. X-rays of the chest revealed no abnormality on two occasions and fluoroscopic examination showed a normal excursion of the diaphragm. A flat plate of the abdomen revealed marked distention of the transverse colon with no evidence of air under the diaphragm. A barium enema could not be performed on admission because of the profuse diarrhea. The report of an examination made three weeks prior to death was as follows: "There is a loss of haustrations of the entire extent of the colon with almost complete obliteration of mucosal pattern. Spasm of the sigmoid is present. These findings are in keeping with an extensive ulcerative colitis."

Clinical Course: The frequency of the stools remained unchanged after admission and the patient was placed on sulfasuxadine with no relief. Sigmoidoscopy revealed "punched out" ulcerations with fairly normal mucosa between the ulcers. The rectum was involved, but much less than the sigmoid colon. Following this examination, the patient was given a course of emetine and carbarsome with the note "stools are much less in amount and number." Nine days prior to death an enterostomy was performed to divert the intestinal contents from the diseased colon. The patient went into shock following the procedure, but recovered promptly following the infusion of plasma and 5 per cent dextrose solution. At the time of operation, a low grade fibrinopurulent peritonitis was found. Five days later, the patient complained to the nurse of pain in the chest. The next day, the Wangensteen tube became "plugged" with a "clot of blood" and later the returns from the gastric suction were "tinged with blood." Generalized abdominal discomfort and distention were progressive. During the evening prior to death, the temperature was 103.2° (R), pulse 120 and respirations 40. The face was flushed. The patient was apprehensive and disoriented at intervals. The pulse was noted to be irregular during this night. The following morning (day of death) the temperature was 101.6° at 8:00 a.m. and at 11:00 a.m. it was 104° (R). Pulse was 128 and respirations 30. The respirations increased in frequency to 48 per minute. The patient became cyanotic; his pulse was weak and thready. Perspiration was profuse and the patient was completely irrational. Metrazol, coramine, ephedrine, and caffeine sodium benzoate were all used with no results and the patient expired (62 days following admission to the hospital). During the course of hospitalization, the patient received 28,000 cc. of 5 per cent dextrose in distilled water; 10,500 cc. of 5 per cent dextrose in normal saline; 10,000 cc. of normal saline, 11 units of plasma and 7,000 cc. of whole blood parenterally. He was also given sulfadiazine, crude liver extract, amigen (terminally) with other supportive and symptomatic therapy.

CLINICAL DIAGNOSIS

DR. MUSICK: Certainly the major factor in a differential diagnosis of this case is the profound diarrhea from which the patient suffered. Its nature is such that one must consider first a primary disease of the lower intestinal tract. Three possibilities immediately come to mind: (1) amoebic colitis, (2) idiopathic ulcerative colitis and (3) bacillary dysentery. A fourth condition might be added to these three, a mixed type of infection — bacillary dysentery *plus* amoebic colitis.

Early in the patient's hospital course, several other possibilities were also considered. *Typhoid fever* was eliminated on the basis of negative blood cultures and agglutination tests. *Regional enteritis* and *segmental ulcerative colitis* were discarded because of later observations that the entire colon was diffusely affected. *Granuloma venereum* and *carcinoma of the lower sigmoid colon* were also considered. I shall limit my discussion however to those three diseases first mentioned.

The complaint of marked tenesmus early in the course of this disease is very significant and is one of the symptoms which directed our attention to some lesion in the rectosigmoid or rectum. The patient would often express an urgent desire to defecate even though he had just left the bedpan. He would have 15 or 20 stools per 24 hours and there were bloody and mucopurulent. We immediately did a sigmoidoscopic examination.

Early in a case of *bacillary dysentery* one sees through the sigmoidoscope, mild edema and slight redness of the mucosa. This is followed shortly by petechial hemorrhages. At this stage one cannot differentiate between a primary colonic infection and some other condition causing a purpuric reaction. By the sixth to seventh day there will be more edema and a rounding out of the valves. Still later, small punctate ulcerations occur in the sigmoid area. As this progresses, many of the ulcers become confluent and their base is covered by a gray membrane. Between the ulcers the mucosa is reddened, granulomatous and bleeds readily. Some sigmoidoscopists claim that they can differentiate between *idiopathic ulcerative colitis* and bacillary dysentery. I have not been able to do this by direct inspection alone although I have made several thousand such examinations. In my experience nonspecific ulcerative colitis usually produces a picture which is identical with bacillary dysentery. The situation is quite different in *amoebic colitis*. Here one sees shallow, discrete ulcerations in the sigmoid colon, but these do not usually become confluent. Even more important in differential diagnosis is the fact that the mucosa between the ulcers is not hyperemic or granulomatous, nor does it bleed readily. Where one encounters bacillary dysentery superimposed upon an amoebic infection, again one observes the same picture as was described for ulcerative colitis. If you find changes of this type (involvement of the mucosa between the ulcers) and demonstrate Endamoeba histolytica, it usually means a mixed type of colitis.

The character of the stools vary also in these three diseases. In *bacillary dysentery* there is usually much blood and a considerable amount of pus, in fact approximately 90 per cent of the cells are usually leukocytes. There will be considerable undigested food also, perhaps because of the rapid transit of food from mouth to anus. In *ulcerative colitis* there may also be much blood and pus, but in addition, many cells are present which come from the wall of the intestine. Great sloughs of mucous membrane may be seen. In *amoebic colitis* there is usually little pus except in the mixed type of infection. In certain fulminating forms there may be much blood. E. histolytica can be demonstrated in 50 to 60 per cent of cases of amoebic colitis on the first stool examination. Statistically, if four stool examinations are carefully done, the organisms can be demonstrated in 80-90 per cent of cases. It is important to remember that some types of amoebic colitis are characterized by constipation rather than diarrhea. Particularly in the constipated form of the disease the flotation method of Faust is useful in demonstrating the organisms. The differentiation of E. histolytica from Endamoeba coli is of prime importance. I shall not go into details of differentiation except to stress the importance of immediate examination of fresh stools or aspiration specimen using D'Antoni's iodine solution.

The x-ray is of very little value in differentiating between amoebic or bacillary dysentery and idiopathic ulcerative colitis. Early the reaction of the colon is rather nonspecific and characterized by spasm. Later there may be narrowing and shortening of the colon with loss of normal mucosal pattern, but this also may occur in all three of these conditions.

It was my opinion that this patient had, initially, amoebic colitis and that this was followed by nonspecific ulcerative colitis from which he died.

CLINICAL DISCUSSION

QUESTION: What is your explanation for the gastric bleeding?

DR. MUSICK: This was probably the result of erosion of the gastric mucosa, on a toxic basis.

QUESTION: Does examination of material directly from the colonic ulcers more often yield recognizable E. histolytica?

DR. MUSICK: Yes — if one uses a glass aspirator with a rubber bulb and collects material from the base of an ulcer, these organisms are easier to demonstrate.

DR. HOPPS: There are three points of immediate interest. None of you inquired as to the immediate cause of death in this individual. It seems clear that some intercurrent lesion or disease developed. The patient was quite emaciated, his plasma proteins were decreased to 5.1 per cent and he had generalized nutritional edema on the basis of this hypoproteinemia. Most of his tissues were atrophic. Dr. Musick, would you care to comment on these aspects of the case?

DR. MUSICK: Malnutrition is certainly one of the bugbears of this disease and we did our best to combat this change by giving many infusions of whole blood and plasma, feeding amino acids, giving multiple injections of crude liver, etc. All of this is in the nature of supportive therapy however and does not seem to be the major factor in pro-

ducing a remission of the fulminating colitis.

QUESTION: In retrospect do you consider that ileostomy was the treatment of choice?

DR. MUSICK: These patients are certainly bad surgical risks. Ordinarily the mortality with medical treatment is 3 to 5 per cent as contrasted with 15 to 20 per cent from surgical treatment. In this case, ileostomy was employed as a last resort with the hope that diversion of the fecal stream from the diseased colon might bring about a remission.

QUESTION: Shouldn't these cases be operated upon earlier?

DR. MUSICK: Recall the mortality statistics I just mentioned. In the fulminating cases, by the time the nature of the disease is recognized and an adequate effort at conservative treatment is made, even though this takes but a week or so — the patient is already a poor surgical risk.

ANATOMIC DIAGNOSIS

DR. HOPPS: This has been a most stimulating discussion and I shall present the necropsy findings briefly in order that we may have an opportunity to continue the discussion. Upon opening the abdomen a small amount of greenish-yellow, foul smelling, blood-tinged, purulent fluid was encountered. All viscera were matted together by easily torn

FIGURE 1

Observe the thrombotic emboli which occlude both major pulmonic arteries. The area of infarction is not apparent in this specimen.

FIGURE 2

Note especially the marked dilatation of the transverse colon and the extensive area of ulceration.

fibrino-purulent exudate. Fifty to sixty cc. of pus lay between the dome of the liver and the right leaf of the diaphragm. Both pleural cavities contained considerable thin sanguino-purulent fluid (200 and 500 ccs.) so that the patient had also bilateral early empyema. There was no break in continuity of the diaphragm. The *immediate cause of death* was massive pulmonary embolism. Thrombotic emboli filled both pulmonic arteries and their major branches (see Fig. 1). Phlebothrombosis involved the right femoral and iliac vein and this was the site from which the thrombotic embolus was derived. In addition there had occurred an infarct of the right lung. This later finding correlates well with the "pain in the chest" of which the patient complained four days before death. The terminal events in this case are quite characteristic of death from pulmonary embolism.

Other major changes were pretty much limited to the liver and the colon. The liver was markedly enlarged, approximately two and one-half times normal (3,700 grams), and was pinkish-yellow and more friable than usual. The basis for this alteration was a very marked fatty change of a type usually associated with malnutrition — a change which very frequently represents the first stage of portal cirrhosis. The colon was spectacular. Throughout its entire length there was a diffuse necrotizing ulcerative process.

There was no normal mucosa present and approximately 90 per cent of the area was completely denude of mucosas. Many of the small ulcers had become confluent and one such area measured 10 x 20 cm. The transverse colon was markedly dilated so that it occupied approximately half of the abdominal cavity. The descending colon, in contrast, was spastic to the extent that its lumen was almost occluded. The actual point of perforation was no longer apaprent. It probably occurred in the dilated, thinned transverse colon (see Fig. 2). Careful microscopic examination of many blocks from the colon did not disclose any evidence of E. histolytica.

DISCUSSION

QUESTION: Did necropsy findings explain the proteinuria?

DR. HOPPS: This man had a diffuse purulent peritonitis and this produced a toxic nephrosis which in turn was responsible for proteinuria.

QUESTION: Dr. Musick, do you still think that this patient had amoebic colitis initially?

DR. MUSICK: Yes, — there are recorded instances of patients with proved amoebic dysentery in which there occurred a gradual transition to idiopathic ulcerative colitis, and I believe that this patient is an example of this type.

QUESTION: Dr. McMullen, in a condition such as Dr. Musick describes, might the amoebic infection be eliminated in the course of the subsequent infection?

DR. MCMULLEN: I think it is quite possible. The intestinal environment in ulcerative colitis would be quite unfavorable to the growth of E. histolytica.

QUESTION: Was the fatty liver the result of toxemia?

DR. HOPPS: This was certainly a factor, but I believe that more important was malnutrition. In experimental animals, as well as in human beings on a starvation diet, during the course of the starvation, lipid is mobilized from fat depots and, for a time, accumulates in large amounts in the liver. This individual had a reduced dietary intake, deficient absorption because of his colitis and, in addition, a marked increase in protein requirement.

MEET OUR CONTRIBUTORS

Dr. W. Branham, M.D., with offices in the Medical Arts Building in Oklahoma City, is a University of Oklahoma Medical School alumnus, having been graduated in 1925. He is a diplomate of the American Board of Urology and a fellow of the A. M. A.

G. R. Russell, M.D., is associated with the Springer Clinic in Tulsa, where he limits his practice to pediatrics. He is a fellow of the A. M. A. and a diplomate of the American Board of Pediatrics. He was graduated from the Western Reserve University School of Medicine, Cleveland, Ohio, in 1925.

Feliz R. Park, M.D., F.A.C.P., has offices in the Medical Arts Building in Tulsa, having come to Oklahoma in 1945 from Pennsylvania. He was graduated from the University of Michigan Medical School in 1930 and is a diplomate of the American Board of Internal Medicine.

Andre B. Carney, M.D., F.I.C.S., F.A.C.S., is connected with the Tulsa Clinic. He was graduated from the New York University College of Medicine in 1922 and is a fellow of the A. M. A.

Vern H. Musick, M.D., Assistant Professor of Medicine, and *Howard C. Hopps, M.D.*, Professor and Chairman of the Department of Pathology, conducted the Clinical Pathologic Conference at the University of Oklahoma School of Medicine. The conference is held weekly at the school and is attended by junior and senior students, hospital interns, residents, clinicians, and faculty. The report is prepared for publication in the Journal each month by Dr. Hopps and the Department of Pathology.

President's Page

The entire State was shocked a few days ago when the radio and newspapers announced the fatal accident which took the life of one of the most active physicians of our State, Dr. James D. Osborn of Frederick.

Dr. John D. Salter of Chickasha, who spoke at his funeral, aptly said what was in the minds of us all when he said:

"His death, just when his efficient professional practice was making itself effective and influential, brings us face to face with one of the deep and age-old mysteries of life. Though we try to disbelieve it, he has passed on; he has laid down his shield unstained and his sword, not as one grown old and weary of the fight, but as the brave and eager, in the full flush of victory with triumph in his eyes. Life for Dr. J. D. Osborn was adventure, thrilling, challenging, daring. He saw through the steady and clear eyes of useful manhood both the supreme glory and awfulness of living. He greeted each new day with zest and gladness; its dawn was filled with promise, its hours with deeds to be done. Each new responsibility was greeted with joy; it brought to him new opportunity. Aware of the uncertainty of life, he threw himself into the task of living with high joy. No day was cold and grey for him, but every day, even the sunless, rainy day, was bright with challenge and duty. Intellectually, Dr. Osborn was alert, morally clean, socially courteous, kindly disposed, a gentleman at all times."

L. C. Kuykendall

President.

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Special Article

JAMES D. OSBORN, M.D.

On Friday afternoon, February 7, while on the way to Chicago, Dr. James D. Osborn was thrown through the window of an overturned pullman car and instantly killed. In line of public duty he was on the way to Chicago to attend a meeting of the National Federation of State Medical Examining Boards. He was elected a member of this National Federation in 1943 and was chosen as president-elect at the last regular meeting. When his untimely death occurred he was on his way to the scheduled meeting of this organization in connection with the Congress of Medical Education and Licensure, where he would have been installed as president of the former. Dr. Osborn was a member of the National Board of Medical Examiners. He had been secretary of the Oklahoma State Board of Medical Examiners for a period of twelve years, also secretary of the Board of Examiners in the Basic Sciences.

Dr. Osborn was the first to fill the position of Speaker of the House of Delegates of the Oklahoma State Medical Association. He served in this capacity until he was elected president of the State Association in 1941. He served on the Draft Appeal Board in World War I and acted as Chairman of the Minute Men Speaking Board. In the post-war period he was Chairman of Tillman County Red Cross. He helped to organize this agency and devoted much of his time toward the administration of its relief work. He was surgeon for the Frisco Railroad from the year 1902, and was appointed surgeon and ophthalmologist for the Missouri, Kansas, and Texas Railroad when it built into Frederick under the name of Wichita Falls and Northwestern.

During World War II he was a member of the Medical Advisory Board and chief examiner for Tillman County under Selective Service.

Dr. Osborn was born in Cleburne, Texas, December 22, 1879. His father and his grandfather were doctors. His family traveled from Alabama to Texas. His scholastic record carries him through grade and high schools at Cleburne, Military Academy at Forney, Texas, Medical School at the University of Texas, and finally at Tulane University where he was graduated in 1901.

After graduation at Tulane he practiced medicine in Lawton, Oklahoma, for a short time. During his stay at Lawton he was holding down a claim a short distance away. Soon he traveled to Oklahoma City where he practiced from 1901 to 1905, before he located for the continued practice of his profession in Frederick, Oklahoma.

Time and space will not permit a complete record of the story of this great man's life. What he meant to the people of his home town, the profession of his State, and organized medicine in the Nation cannot be amply treated in this brief sketch. His services were far reaching and incalculable. At the offices of the State Medical Association and in its councils and caucuses Dr. Osborn's habitual courage, wise counsel, keen judgment, peculiar charm, and rare wit will be sadly missed.

It may be said that when Dr. Osborn met his lamentable death he was running traditionally true to the high principles of his profession. Having left his practice to pursue the common weal he was sacrificing material gain for public good.

Humbly we mourn his death and press on in the high calling he so amply exemplified.

APRIL BIRTHDAY MONTH OF BLUE CROSS AND OPS

The two nonprofit health plans sponsored by the hospitals and physicians of Oklahoma will have birthdays next month. Blue Cross will be seven years old, and Oklahoma Physicians Service will be two. These are significant anniversaries for both organizations. Blue Cross, with 180,000 members, is leaving the "small plan" category and enters the sphere of large operations. Its success is assured. Its operations have been placed on a businesslike, efficient basis. Its days of experimental procedures are over. Blue Cross in Oklahoma has spent its green years, and now, possessed of a sanguine maturity, is ready to do the job for which it was created — making good hospital care readily accessible to everyone in the State. Oklahoma Physicians Service can stand on its second milestone and view two well-spent years of organizational activity that has placed the plan on a sound financial basis and set the stage for accelerated enrollment which is now taking place.

The building of these two plans has been long and tedious, but it has been accomplished with simple tools — honesty, simplicity, and forbearance. The methods used are exemplified by these statements: "A public service, without public compulsion." "Private enterprise, without private gain." During this seven years of growth, the most effective representatives of the Blue Cross idea have been the subscribers themselves. To the subscriber, the Blue Cross idea becomes a generous reality when the need for costly hospital care arises.

In 1940, many States had already established Blue Cross Plans, but in Oklahoma the idea was still resting uneasily in the heads of a few farsighted physicians who could readily see the need for creating such a plan, but were finding it difficult to acquire the necessary support and information that was needed to begin operations. They were the nucleus of a committee appointed by the Oklahoma State Medical Association to bring Blue Cross to Oklahoma. The Blue Cross Plan in St. Louis was contacted in an effort to get information on how to go about creating a Plan. After many committee meetings and

Pictured above are members of the Board of Trustees of the Oklahoma Blue Cross Plan as they study the annual report for the year 1946 at the regular midwinter meeting held January 20 in Oklahoma City. Left to right seated are Mont F. Highley, Jr., Secretary, Oklahoma City; Dr. A. S. Risser, President, Blackwell; T. Austin Gavin, Second Vice-President, Tulsa. Standing are Elmer W. Pollock, Tulsa; Dr. H. B. Stewart, Tulsa; Bryce Twitty, Tulsa; Dr. H. C. Weber, Bartlesville; E. U. Benson, Cushing; Dr. Chester L. McHenry, Oklahoma City.

N. D. Helland, Executive Director

meetings with local citizens, the Assistant Director of the St. Louis Plan, Mr. W. R. McBee, was employed as Director of the Plan in Oklahoma, which was incorporated on April 1, 1940. It was the intention of the Medical Association to have an enabling act passed, permitting the hospitals of Oklahoma to create such an organization. After consulting with legal counsel and the Attorney General of Oklahoma, it was decided that the Mutual Casualty Act of this State would permit the hospitals to do everything they wanted to do without waiting for the time required to have an enabling act passed, particularly in view of the fact that the legislature was not in session at the time. This is the reason that in Oklahoma Blue Cross operates under the regular State Insurance Department, whereas in most States a special enabling act was passed, permitting the local hospitals to carry on this function, the enabling act taking the Blue Cross Plan out of the category of insurance.

During the long months of preparatory activity, the personalities of a few doctors were the driving force that kept the idea alive and moving until the actual organization took place and became incorporated. The corporate structure of Blue Cross is composed of twenty-one board members. In order to have interested portions of society represented, the by-laws provide that seven of the trustees must be hospital administrators to represent hospital interests; seven trustees are doctors to represent medical interests; and seven are local business men to represent employed groups.

Nine per cent of the people in Oklahoma are now members of Blue Cross. Oklahoma's population is predominantly rural and problems of reaching a cross section necessary to be sure that the demand for hospital service does not exceed the general overall average have been great. The principle of group enrollment extends also to farm groups and these groups are difficult to organize for various reasons. The farm groups from which Blue Cross accepts members are the Farm Bureau, the State Grange, the Farmers Home Administration, and Home Demonstration Clubs. It is estimated that the combined membership of these groups is approximately 220,000 people. Under the present farm enrollment system, this figure represents the potential for Blue Cross membership, which excludes more than a half million farm people who do not belong to any of these groups. Farmers have been very receptive to Blue Cross and farm enrollments have made substantial gains during the past several months. It is hoped that a formula for enrolling the entire populations of counties can be worked out to solve this problem in rural areas of the state.

In August 1941, McBee resigned as Director of Blue Cross to become director of the Texas Plan. A committee of three members of the Board of Trustees was named to employ a new director. On December 1, 1941, N. D. Helland, then associated with the Blue Cross Plan in Wisconsin, was made Executive Director of the Oklahoma Plan, which position he still holds.

Coincident with Helland's appointment, the large commercial insurance companies became very active in the prepaid health field, and in order to compete favorably with Blue Cross, included surgical benefits in their plans. As a result of this activity, it became quite necessary for Blue Cross to have a prepaid surgical plan in order to satisfy particularly the big employers, so by working with local doctors interested in the movement, a committee of the State Medical Association was appointed for the purpose of studying and drafting a prepaid plan that would be acceptable to the Medical Association. Dozens of committee meetings were held, corporate papers were drafted, changed, and re-drafted, and finally in 1945 a surgical plan was offered to the people of Oklahoma, officially sponsored by the State Medical Association. This was organized again under the Mutual Casualty Act of the State insurance laws. Efforts were made at first to organize the plan on a service contract basis exactly like the Blue Cross Plan, whereby the doctors would sign a contract agreeing to render surgical and obstetrical care to the members for a stipulated fee, this feature to apply to

Avant, Oklahoma, is typical of the small rural communities that have been enrolled in Blue Cross on a community basis. Mrs. J. B. Smith is pictured above explaining the plan to members of the community meeting. Forty applications covering 112 participants were the results of the organizational work done by Mrs. Smith and committee members. Dues will be paid at the local telephone exchange.

The Shell Oil Corp., with Mid-Continent Hqs. in Tulsa, has enrolled employees in Okla., Kans., Tex., Ill., and Colo. in Blue Cross and OPS on a payroll basis. The management adopted these nonprofit plans after careful studies and comparisons with other plans. Above, reviewing the benefits and costs of the program, are J. A. LaBarge, Chief Clerk; Harry Eells, Asst. Personnel Mgr.; C. L. Stinnett, Personnel and Industrial Relations Mgr.; Herb Felkel, Blue Cross Enrollment Mgr.; and John Reed, Sr. Clerk.

persons with certain incomes in the plan and to be on an indemnity basis for persons with incomes greater than the amount specified. The service plan was not acceptable to the House of Delegates of the State Medical Association, so again the structure was changed and an indemnity plan was proposed. This was passed and became a reality on April 1, 1945. The Board of Trustees, composed of nine doctors and six business men, was set up as the policy-making body. This new corporation entered into a contract with Blue Cross whereby Blue Cross would handle the promotion of enrollment and the records of the new corporation with the same Executive Director functioning for both organizations, all through the organization of Oklahoma Physicians Service. Again a few doctors were responsible for keeping the idea moving along to a final successful conclusion.

Oklahoma Physicians Service was incorporated in April 1945, but enrollment was not begun until June. Enrollment started very cautiously and only large payroll groups were taken as members. This caution was necessary to insure the financial success of the venture, and it was continued for a year. Now Physicians Service, with more than 20,000 members, is available to all employed groups that are enrolled in Blue Cross.

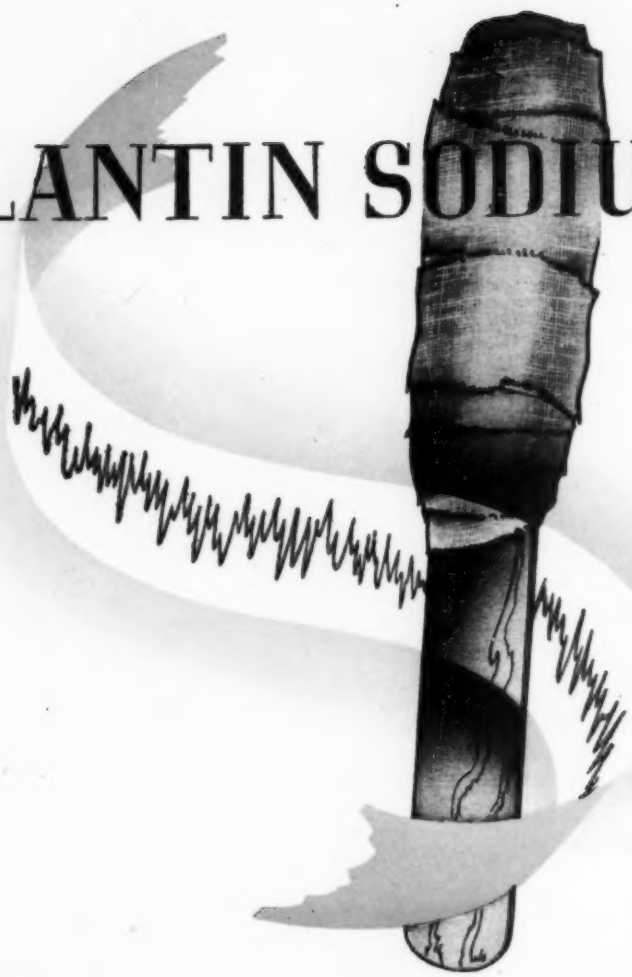
Thirty-eight county medical societies have endorsed the Physicians Service Plan. This endorsement and sponsorship is necessary before the plan can be offered to the people of a county. By endorsement is meant that (1) the doctors in the county will speak well of the plan and assist the representatives in presenting it, (2) that they will not abuse the plan by unnecessary surgery, and (3) that they will not abuse the plan by charging higher fees that would normally be charged if the plan were not present.

It is hoped that the time is not too far distant when Oklahoma Physicians Service can be offered to associated groups, communities, and farm organizations.

Accounting Department, Tulsa Blue Cross and OPS Office

SYMBOLS OF SIGNIFICANCE

DILANTIN SODIUM



The cry, the fall, the champing teeth, the tonic and clonic contractures, the incontinence—all may yield to DILANTIN SODIUM. The E.E.G. can trace the pathologic brain wave, yet the epileptic may be spared his terrifying episodes. Powerfully anti-convulsant rather than dullingly hypnotic, DILANTIN SODIUM KAPSEALS* offer to the epileptic a sense of security and an opportunity to lead a more normal and useful life. DILANTIN SODIUM KAPSEALS—another product of revolutionary importance in the treatment of a specific disease; another of a long line of Parke-Davis preparations whose service to the profession created a dependable symbol of significance in medical therapeutics—MEDICAMENTA VERA.

DILANTIN SODIUM KAPSEALS
(diphenylhydantoin sodium), containing 0.03 Gm. (½ grain) and 0.1 Gm. (1½ grains), are supplied in bottles of 100, 500 and 1000. Individual dosage is determined by the severity of the condition.

*Trademark Reg. U. S. Pat. Off.

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PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

ASSOCIATION ACTIVITIES

MEDICAL SCHOOL OFFERING EDUCATIONAL PROGRAM IN BASIC SCIENCES

Physicians throughout the state, residents, and especially physicians who are contemplating taking Special Board examinations, will be interested to know that the University of Oklahoma School of Medicine has inaugurated a series of conferences consisting of twelve 1½-hour sessions covering Anatomy and Physiology. The dates of meeting and subject matter schedule are as follows:

Feb. 4. Recent Advances in the Anatomy of Lung and Pleura

Feb. 11. The Anatomy of Cardiac Malformations and the Coronary Circulation

Feb. 18. Applied Anatomy of the Peritoneum and G. I. Tract

Feb. 25. Peripheral Nerve Plexuses

March 4. Arterial Anatomy and Collateral Circulation

March 11. Venous Pathways in the Spread of Tumors and Infections

March 18. The Anatomy of Lymphatic Spread of Tumors and Infections

March 25. Applied Anatomy of the Autonomic Nervous System

April 1. Applied Anatomy of Joints

April 8. The Anatomy of Hernia (mainly inguinal and femoral)

April 15. Applied Anatomy of the Central Nervous System

April 22. Body Type and Constitution

Feb. 6, 13. Blood and Its Constituents

Feb. 20, 27. Heart and Circulation

March 6, 13. Respiration

April 3. Metabolism

April 10. Nervous System

April 17. Reproduction

April 24. Endocrines

The above is the first of four programs to present recent developments in the basic sciences. Details o subsequent programs will be supplied later. Meeting will be held in room 215, School of Medicine Building 801 N. E. 13th Street, Oklahoma City, Okla. There is n fee.

Physicians interested in attending should communicat with the Education Committee of the University Medica School.

OKLAHOMA COUNTY HEALTH ASSOCIATION SPONSORS NEW MOBILE CLINIC

The first, and at this time, the only tuberculosis clini on wheels in Oklahoma was dedicated at public cere monies in Oklahoma City, January 25, 1947. The Mobil Unit is designed to bring a free tuberculosis detection service to the people of Oklahoma County through the sponsorship of the Oklahoma County Health Association.

Christmas Seals Buy Clinic

Oklahoma County Health Association's mobile x-ray clinic was paid for entirely out of funds raised by the 1945 sale of "TB Christmas Seals" bought by the people of Oklahoma County. Operating costs will come from the funds obtained through the 1946 sale of seals. The clinic cost $25,518.55.

Free X-Ray Service

Chest x-ray service, free of cost, to the estimated 260,000 residents of Oklahoma County above 14 years of age is now being conducted and planned. The Mobile Clinic will move about on a prearranged schedule and to conserve time and effort will first serve groups of individuals. Stipulation of the age minimum of 14 years is in line with present conclusive data regarding immunity to TB by younger children, excepting those under four years of age. Those in the younger age bracket have available a more satisfactory x-ray service for the immature chest at the Variety Club Health Center in Oklahoma City.

Confidential Reports: Follow-Up

Subsequent to the free x-ray all persons will be mailed a sealed report of the findings whether positive or negative. Careful and sincere follow-ups will also be made where a positive report has been given.

ANNUAL AUDIT REPORT

L. C. Kuyrkendall, M.D., President
Oklahoma State Medical Association
210 Plaza Court
Oklahoma City, Oklahoma

January 23, 194

Dear Sir:

We have completed the audit of the financial records of:

THE OKLAHOMA STATE MEDICAL ASSOCIATION
OKLAHOMA CITY, OKLAHOMA

for the period from January 1, 1946, to December 31, 1946, and submit herewith the following Exhibits:

EXHIBIT "1"—Balance Sheet
EXHIBIT "2"—Statement of Cash Receipts and Disbursements
EXHIBIT "3"—Operating Statement
EXHIBIT "4"—Bank Reconciliation

We wish to thank you for this audit, and if we can be of further service, please feel free to call upon us.

Respectfully Submitted,
H. E. COLE COMPANY
By: H. J. Cole

(Continued on Page 106)

indications for "smoothage"

"smoothage"—the gentle, non-irritating action of Metamucil—is indicated in any type of constipation or other gastrointestinal dysfunction requiring a mild, soothing but effective stimulant to bowel evacuation.

metamucil provides a soft, bland, plastic bulk which exerts a stimulating effect on the bowel reflexes and facilitates elimination of the fecal content in a completely normal and natural manner.

metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%), as a dispersing agent.

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

Metamucil is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois

ANNUAL AUDIT REPORT (CONTINUED)

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "1"

BALANCE SHEET

December 31, 1946

	Total	Membership Fund	Journal Fund	Annual Meeting Publicity Fund	Medical Defense Fund	State Fair Fund
ASSETS						
Liberty National Bank	$21,307.67	$ 3,689.44	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87
Petty Cash	20.00	20.00				
U. S. Defense Bonds	2,220.00	2,220.00				
U. S. Savings Bonds	4,000.00	4,000.00				
U. S. Treasury Bonds	6,178.88	6 178.88				
Total Assets	$33,726.55	$16,108.32	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87
LIABILITIES & NET WORTH				*Annual Meeting*		
Operating Reserve 1-1-46	$19,657.88	$16,328.52	$ 2,411.55	$ 236.60	$ 619.34	$ 61.87
				Publicity		
Net Revenue, 1946	14,068.67	2,068.48	—3,559.78	15,759.97	—200.00	
Transfer of Funds 1946		—4,000.00	4,000.00			
Transfer of Funds 1946		1,474.72	—1,474.72			
				A.N. Meeting		
Transfer of Funds 1946		236.60		—236.60		
Net Operating Reserve 12-31-46	$33,726.55	$16,108.32	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87
Total Liabilities & Net Worth	$33,726.55	$16,108.32	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87

Note: Column No. 4. Annual Meeting Fund Transferred to Membership Fund Publicity Fund Established.

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "2"

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1946 to December 31, 1946

	Total	Membership Fund	Journal Fund	Annual Meeting Publicity Fund (An.)	Medical Defense Fund	State Fair Fund
Cash Balance, January 1, 1946	$ 7,248.37	$ 3,919.01	$ 2,411.55	$ 236.60	$ 619.34	$ 61.87
Petty Cash	11.13	11.13				
RECEIPTS						
Membership Dues	16,782.00	16,782.00				
Special Assessments	20,875.00			20,875.00		
Government Bond Interest	180.00	180.00				
Annual Meeting Income	4,045.39	4,045.39				
Miscellaneous Income	285.50	285.50				
Transfer From Annual Meeting	236.60	236.60				
Transfer From Journal	1,474.72	1,474.72				
Transfer From Membership	4,000.00		4,000.00			
Journal Advertising and Subscriptions	13,646.68		13,646.68			
Total Cash to be Accounted for	$68,785.39	$26,934.35	$20,058.23	$21,111.60	$ 619.34	$ 61.87
DISBURSEMENTS				(Pub.)		
Expenses, 1946	$41,745.90	$19,224.41	$17,206.46	$ 5,115.03	$ 200.00	$
Accrued W.H. Taxes 1-1-46	.50	.50				
Transfer to Membership	236.60			236.60		
Transfer to Membership	1,474.72		1,474.72			
Transfer to Journal	4,000.00	4,000.00				
Total Disbursements	$47,457.72	$23,224.91	$18,681.18	$ 5,351.63	$ 200.00	$
Balance December 31, 1946	$21,327.67	$ 3,709.44	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87
Bank Balance December 31, 1946	$21,307.67	$ 3,689.44	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87
Petty Cash	20.00	20.00				
	$21,327.67	$ 3,709.44	$ 1,377.05	$15,759.97	$ 419.34	$ 61.87

ANNUAL AUDIT REPORT (CONTINUED)

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma
EXHIBIT "3"
OPERATING STATEMENT
January 1, 1946 to December 31, 1946

	Total	Membership Fund	Journal Fund	Publicity Fund	Medical Defense Fund	State Fair Fund
REVENUES						
Membership Dues, 1946	$16,782.00	$16,782.00	$	$	$	$
Journal Advertising and Subscriptions	13,646.68		13,646.68			
Government Bond Interest	180.00	180.00				
Annual Meeting Income	4,045.39	4,045.39				
Special Assessments	20,875.00			20,875.00		
Miscellaneous Income	285.50	285.50				
	$55,814.57	$21,292.89	$13,646.68	$20,875.00	$	$
EXPENSES						
Salaries	$12,324.55	$ 4,926.45	$ 7,398.10	$	$	$
Telephone and Telegraph	924.69	924.69				
Postage	1,066.82	936.82	15.00	115.00		
Rent	1,150.00	800.00	350.00			
Stationery and Printing	603.57	603.57				
Printing and Mailing	8,716.63		8,716.63			
Engraving	415.16		415.16			
Office Supplies	764.01	764.01				
Traveling Expense	2,065.11	2,065.11				
Auditing and Legal	200.00	50.00	150.00			
A.M.A. Delegates Travel Expense	576.62	576.62				
Annual Secretaries Conference	143.88	143.88				
Annual Meeting	5,476.59	5,476.59				
Office Furniture and Fixtures	368.96	368.96				
Sundry Account	905.01	825.16	52.85	27.00		
Health Exhibit	500.00	500.00				
Surety Bond	206.55	206.55				
Chamber of Commerce	25.00	25.00				
Refund of Dues	31.00	31.00				
Advertising	4,973.03			4,973.03		
Press Clipping Service	108.72		108.72			
Medical Defense	200.00				200.00	
Total Expenses	$41,745.90	$19,224.41	$17,206.46	$ 5,115.03	$ 200.00	$
Net Revenue 1946	$14,068.67	$ 2,068.48	—$3,559.78	$15,759.97	—$ 200.00	$

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma
EXHIBIT "4"
BANK RECONCILIATION
December 31, 1946
LIBERTY NATIONAL BANK

Membership Fund		
Balance as per Bank Statement, December 31, 1946		$ 4,238.99
Outstanding Checks		
Voucher No. 2155 Postmaster	$ 55.00	
Voucher No. 2177 Ruby Williams	4.50	
Voucher No. 2182 Dick Graham	197.35	
Voucher No. 2192 Collector of Internal Revenue	165.60	
Voucher No. 2193 Dick Graham	97.10	
Voucher No. 2194 Virginia Owens	30.00	549.55
Balance as per Books, December 31, 1946		$ 3,689.44
Journal Fund		
Balance as per Bank Statement, December 31, 1946		$ 1,814.60
Outstanding Checks		
Voucher No. 1986 Hygeia (June, 1946)	$ 6.00	
Voucher No. 2186 Dick Graham	197.35	
Voucher No. 2188 L. J. Moorman	90.50	
Voucher No. 2191 Collector of Internal Revenue	143.70	437.55
Balance as per Books, December 31, 1946		$ 1,377.05
Publicity Fund		
Balance as per Bank Statement, December 31, 1946		$15,759.97
Balance as per Books, December 31, 1946		$15,759.97
Medical Defense Fund		
Balance as per Bank Statement, December 31, 1946		$ 419.34
Balance as per Books, December 31, 1946		$ 419.34
State Fair Fund		
Balance as per Bank Statement, December 31, 1946		$ 61.87
Balance as per Books, December 31, 1946		$ 61.87

HAVE YOU HEARD

Dr. L. Stanley Sell, Oklahoma City, was recently inducted into the fellowship of the American College of Surgeons at formal ceremonies in Cleveland, Ohio. Dr. Sell was chosen for the honor in 1945 while serving with the Armed Forces in Germany.

Three Tulsa physicians were recipients of 1946 Annual Civic Awards given by the local Chamber of Commerce in recognition of outstanding civic services, at the Chamber's Annual Banquet on January 16. *Dr. Homer A. Ruprecht,* Springer Clinic internist, was honored for his work as director of an extensive study of hospital conditions in Tulsa County and northeastern Oklahoma in 1945 and 1946. *Dr. Walter F. Sethney,* pediatrician, and *Dr. Ian MacKenzie,* orthopedist, were commended for their services to victims of the Tulsa infantile paralysis epidemic last summer, serving tirelessly and without compensation as supervisors of the polio ward at Hillcrest Memorial Hospital.

Dr. D. W. Darwin of the Darwin Clinic, Woodward, Oklahoma, is taking a six-weeks' postgraduate course in orthopedic surgery and traumatology under Dr. Arthur E. Steindler and associates at the College of Medical Evangelists, Los Angeles, California.

G. F. Mathews, M.D., State Commissioner of Health, recently announced the following appointments: *Dr. Marvin Terrell* of Oklahoma City, appointed County Superintendent of Health of Oklahoma County; *Dr. C. P. Bishop,* of Muskogee, County Superintendent of Health for Muskogee County; and *Dr. J. M. Cameron,* of Ponca City, County Superintendent of Health for Kay County.

Dr. Henry C. Trzaska has opened offices in Hennessey.

Two veterans of World War II, *Dr. Wilson Mahone* and *Dr. Ralph S. Phelan,* have established offices together in the Lemon Building, Hobart, continuing an association that began when they both graduated from the University of Oklahoma Medical School in 1939. They served their internship together at Jefferson Davis Hospital, Houston, Texas, and entered the service in July, 1941. After 21 months with the Army Ground Forces in China, Dr. Mahone was recently discharged with the rank of lieutenant colonel. Dr. Phelan served overseas 30 months, seeing combat in the Italian campaign, and was discharged from the Army with the rank of captain.

Dr. Claude B. Waters, born in Pawnee, has returned to that city to establish a practice in medicine and surgery. A graduate of the University of Oklahoma Medical School, Dr. Waters was recently discharged from the Army with the rank of maor after serving with the Fifth Army in Africa and Italy.

Dr. O. G. Bacon,, Frederick, has announced that *Dr. William E. Hubbard* is now associated with the Frederick Clinic Hospital. Recently discharged from the service, Dr. Hubbard was previously associated with several physicians in Oklahoma City.

NEWS

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY TO MEET IN SEPTEMBER

The Third American Congress on Obstetrics and Gynecology will be held in the St. Louis Municipal Auditorium, September 8-12, 1947. This meeting is not directed for the specialist only. The aim of the meeting is to assemble all doctors, nurses, hospital administrators, public health workers, and medical educators who are interested in the care of the mother and child.

In addition to a variety of program presentations and discussions of obstetric-gynecologic problems and methods, the Congress is building a complete Scientific and Educational Exhibit, a Motion Picture Program, and a large Technical Exhibit. One interesting feature of the program will be 18 daily demonstrations of technique in forceps and breech deliveries by doctors from all over the country.

Information concerning registration fees, hotel reservations, and further details about the program can be obtained from the office of the Congress at 24 West Ohio Street, Chicago 10, Illinois.

POTTAWATOMIE COUNTY SOCIETY TO HOLD ANNUAL SPRING CLINIC

The Annual Spring Clinic of the Pottawatomie County Medical Society will be held at Shawnee, Oklahoma, on Saturday, March 22, 1947, with an afternoon and evening session. The meeting will begin at 2:30 P.M. with dinner at seven o'clock. Speakers will be: Dr. Newton D. Smith, proctologist, Mayo Clinic, and Dr. George L. Carlisle, cardiologist, Dallas.

SOUTHWESTERN OFFERS RESIDENCY IN NEUROPSYCHIATRY

The Southwestern Medical Foundation in cooperation with the Veterans Administration is offering a three-year residency in neuropsychiatry. The first two years are divided into eight-month rotation periods between the Dallas area and the VA hospital at McKinney and Waco, Texas, and the third year is elective, including investigative work. Required time is divided between psychosomatic medicine and mental hygiene work, including child guidance, and inpatient psychiatry. For further information write the Secretary of the Dean's Subcommittee for Neuropsychiatry, Southwestern Medical College, 2211 Oak Lawn Avenue, Dallas 4, Texas.

OKLAHOMA CITY PHYSICIANS ACTIVE IN CHAMBER OF COMMERCE

Ninety-eight Oklahoma City physicians are subscribing supporters to the Oklahoma City Chamber of Commerce. This is approximately 38 per cent of Oklahoma City's practicing physicians and represents a percentage equaled by very few cities of its size in the nation. All problems of a medical nature are cleared through the Medical Center Committee of the Oklahoma City Chamber, and important medical projects it has supported include the Oklahoma City Clinical Society, the City-County Hospital Project, the Medical School, the Oklahoma Medical Research Foundation, and the proposed Research Institute.

UPPER RESPIRATORY INFECTIONS:

management with PENICILLIN SCHENLEY

Both systemic and topical penicillin administrations have been found valuable in the treatment of infections of the mouth, nose and sinuses, pharynx, tonsils, larynx, and tracheobronchial system.[1, 2] Since respiratory infections often show a tendency to relapse, it is all-important to adhere to the principle established by clinicians widely experienced in penicillin therapy:

give enough-soon enough-long enough

(1) Menefee, E. E., Jr., and Atwell, R. ... South. M. J. 39:726 (Sept.) 1946.
(2) Woodward, F. D., and ... J.A.M.A. 129-589 (Oct. 27) 1945.

PENICILLIN SCHENLEY. Suggested dosage: Intramuscular, 20,000 to 40,000 units every three hours, continued until the patient has been symptom-free for forty-eight to seventy-two hours. Topical, instillation of 3 to 5 cc. of a solution containing 5,000 to 10,000 units per cc., repeated as frequently as indicated in the judgment of the physician.

PENICILLIN TABLETS SCHENLEY. Suggested dosage: 2 tablets (50,000 units each) every two or three hours day and night until all signs of infection have been absent for at least forty-eight hours. This treatment is suitably employed after initial parenteral therapy, and as an adjunct to topical administration.

Specialized skills devoted to the control of bioculture processes insure the dependability of all penicillin products bearing our label.

EXECUTIVE OFFICES: 350 FIFTH AVE., NEW YORK CITY

SCHENLEY LABORATORIES, INC.

© Schenley Laboratories, Inc.

SCHENLEY LABORATORIES SERVICES: 1. Penicillin Paragraphs for March, dealing with upper respiratory infections, has been mailed to all physicians. 2. A comprehensive penicillin dosage chart will be mailed to physicians on request.

NO. 9 in Schenley Laboratories' continuing summary of penicillin therapy

OBITUARIES

James Thomas Nichols, M.D.
1878-1947

James Thomas Nichols, M.D., of Muskogee, died January 26, 1947, following a cerebral hemorrhage. A pioneer physician of Muskogee, Dr. Nichols had served his community 40 years. He was born September 9, 1878 at Asheville, N. C., and after graduating from the University of Colorado Medical School at Denver in 1903, established his residence at Muskogee in 1907, where he served as city physician for two different terms.

Dr. Nichols served during World War I as captain in the Army. He was a communicant of Grace Episcopal Church. Survivors include Mrs. Nichols; a daughter, Mrs. B. E. Heard, of Dallas, Texas; and a son, John Robert Nichols, of Muskogee.

Swartz Baines, M.D.
1867-1947

Swartz Baines, M.D., of Tahlequah, died January 6, 1947 following a long illness. He was 79 years of age.

A native of Harrison, Ark., Dr. Baines came to Tahlequah in 1916, and only recently retired from active practice. He was graduated from the University of Medicine of Little Rock, Ark., and practiced in Harrison, Ark., before moving to Tahlequah. He was a member of the First Christian Church. Survivors include Mrs. Baines; two sons, Ben and Tom Baines, both of Tulsa; and two daughters, Mrs. Wilson Washington of Tahlequah and Mrs. Max Rust of Muskogee.

Harvey K. Dever, M.D.
1906-1947

Harvey K. Dever, M.D., of El Reno, died February 1 in an El Reno hospital following a short illness caused by a sudden heart attack. Dr. Dever, born at Gifford, Mo., in 1906, moved to El Reno with his parents in 1907. He was graduated from the University of Kansas Medical School in 1930 and interned in Montreal, Canada, afterwards returning to El Reno where he joined his father, the late Dr. H. A. Dever, in the practice of medicine. Survivors include his mother, Mrs. H. A. Dever, and a daughter, Ora Emily Dever, both of El Reno, and a brother, Milford Dever, of Oklahoma City.

George Hunter, M.D.
1881-1947

George Hunter, M.D., former director of the Oklahoma County Health Department, died February 8 at Oklahoma City General Hospital. Death was attributed to tuberculosis.

Born in Ducktown, Tennessee, on March 28, 1881, Dr. Hunter came to Tuttle, Oklahoma, soon after his graduation from the Louisville, Kentucky, Medical College in 1904. Later he moved to Oklahoma City and served as City Health Commissioner. After serving overseas in World War I as a captain in the Army he continued his work with the City Health Department until 1927, when he became director of the Seminole County Health Units. In 1939 he was appointed head of the Oklahoma County Health Unit, serving until he retired December 1, 1945. He was a member of the Methodist Church. Survivors include his wife, a son James Robert Hunter, three sisters, and a brother, all of Oklahoma City.

MEDICAL SCHOOL

CALENDAR — MARCH, 1947

SURGICAL PATHOLOGIC CONFERENCES — Each Tuesday 12:00 Noon to 1:00 P.M.

MEDICAL CONFERENCES — Each Wednesday, 9:00 A.M. to 10:00 A.M.

CLINICAL PATHOLOGIC CONFERENCES — Each Thursday 12:00 Noon to 1:00 P.M.

TUMOR CLINICS — First and Third Tuesdays (March 4 and 18) 8:00 A.M. to 9:00 A.M.

UROLOGIC-PATHOLOGIC CONFERENCE — Second Tuesday (March 11) 8:00 A.M. to 9:00 A.M.

MONTHLY STAFF MEETING — Second Friday (March 14) Dinner, 6:15 P.M.

RADIOLOGIC CONFERENCE — Fourth Monday (March 24) 6:45 P.M. to 7:30 P.M.

Dr. Wilma Craft Stafford (Med '33) is in medical practice with her husband, Dr. Wilfred F. Stafford, at Mattoon, Illinois.

The Library has received a facsimile copy of the first medical document printed in the American Colonies, "Brief Rule to Guide the Common People of New England How to Order Themselves and Theirs in the Small Pocks or Measles," by Reverend Thomas Thacker, a gift of Dr. Mumey of Denver, Colorado.

Major Francis Crane (Med '33) of Wilburton, Oklahoma, has been admitted to the Medical Corps of the Regular Army. Major Crane served during World War II in the Pacific Theater where he attained the temporary rank of lieutenant colonel.

Roy Raub (Med '46), who is interning at Jefferson Davis Hospital at Houston, Texas, was a visitor to the school in January.

James A. Dugger (Med '46) reported for active duty with the U. S. Navy Medical Corps February 1, 1947.

Dr. W. Carl Lindstrom (Med '34) is now practicing in Tulsa, Oklahoma.

Dr. Homer F. Marsh, Associate Professor of Bacteriology, was the principle speaker at the meeting of the Osage County Medical Society at Pawhuska, Oklahoma, on January 20, 1947. Dr. Marsh's topic was "The Rh Factor."

Dr. John F. Hackler (Med '33), Professor of Preventive Medicine and Public Health, was the principle speaker at the Second Annual State-wide Party for ex-tuberculous patients, held at the Mayo Hotel in Tulsa, Oklahoma, on February 1, 1947. All persons interested in tuberculosis control were invited to attend. The party is held annually as a "birthday" celebration in honor of Dr. Forrest P. Baker, Superintendent of the State Tuberculosis Sanitarium at Talihina, Oklahoma, and a leader in tuberculosis work in the state for the past 30 years.

to combat

depression characterized by

"chronic fatigue"

Depressed patients "... suffering from psychomotor inhibition complain of feeling tired, of not being able to get started on their daily tasks, and of an abnormal inclination to procrastinate. They make up their minds that they are going to do a certain thing but they never seem to get to it. Everything seems too big for them . . ."*

In the above quotation, Kamman emphasizes "chronic fatigue" as a dominant symptom in the type of depression most frequently encountered in daily practice.

Benzedrine Sulfate is particularly valuable in the presence of "chronic fatigue". It will, in most cases, help to overcome the depression and thus enable the patient to make a sincere and constructive effort to surmount his difficulties.

*Kamman, G. R.: Fatigue as a Symptom in Depressed Patients, Journal-Lancet 65:238 (July) 1945.

b

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BOOK REVIEWS

BANTING'S MIRACLE: THE STORY OF THE DISCOVERER OF INSULIN, WITH A FOREWORD BY ELLIOTT P. JOSLIN, M.D. Seale Harris, M.D. Cloth, 245 pp. and 33 illustrations. Price, $3. Philadelphia: J. P. Lippincott Co., 1946.

The title to this book is not an overstatement in the light of the prominence accorded the finding and isolation of insulin in commercial quantities, and measured by the specific therapeutic benefits derived. This discovery is one of the great milestones in medical achievement. The discovery of hyperinsulinism and the E. M. F. factor in liver may be listed as side effects. Banting was a farm boy dedicated to the ministry by his family. The association with medical students created a fire in his soul, causing him to study medicine. He was an omnivorous reader with a versatility of innate talents. He was a first rate artist, a musician. He initiated the use of aluminum dust as an antidote to silicosis. He helped to perfect the Frank's flying suit, and was ever in pursuit of "his contagious enthusiasm and stubborn devotion to science." It has been said that "in the field of science chance only favors the mind that is prepared." Banting was a Nobel prize winner conjointly with McLeod, his avowed enemy, but he insisted upon sharing his honors and money with Best, his constant friend and associate in developing the miracle. He was jilted by his boyhood sweetheart because of his poverty and apparent dire future. He was twice married. His untimely death was caused by a tragic airplane accident.

This book is written in such pleasing English it takes the form of a biographical novel. The author, Dr. Seale Harris of Birmingham, Alabama, is well-known and loved both nationally and internationally. His close friendship with Banting during his life, access to his archives and surviving friends, give him factual matter that is unassailable. Dr. Harris, in his own right as a writer and research worker, is best known through the discovery of hyperinsulinism. This writing therefore was a labor of love.

Dr. Elliott P. Joslin, whose name is synomynous with diabetes the world around, would not have written the foreword to this book had it not been of merit. This book should be read by every medical student, doctor, and diabetic patient. Because of its historical and moral value it should have a popular appeal.—Lea A. Riely, M.D.

HENRY SEWALL: PHYSIOLOGIST AND PHYSICIAN. Gerald B. Webb and Desmond Powell. Price, $2.75. Baltimore: The Johns Hopkins Press, 1946.

The authors follow the life and works of this beloved physician and scientist in a most pleasing and instructive way. Fortunately, the personality of Henry Sewall shines through the story, leading the reader on as Sewall in life led his friends from fount to fount. The physicians in Oklahoma now in the process of establishing a research foundation should read this interesting story. Sewall's interest in science, his persistent pursuit of truth, and the story of his contacts with the world's great scientists from the inception of scientific research in this country should attract every forward-looking young physician and intrigue every inquiring student of medicine.

The story of Sewall's study under the world's greatest teacher of physiology is well worth the price of the book. Nothing could be more inspiring than to follow the evolution of Sewall's career at Hopkins, the University of Michigan, and later in Denver where he went because of his health. At Michigan he carried out his experiments in immunity against rattlesnake venom. It was this work in animal immunity which later pointed the way to antivenin and diphtheria antitoxin. This informative, stimulating, and inspirational biography should have a wide reading. The authors display a comprehensive knowledge of Dr. Sewall's life, and the fabric they have produced, by weaving into it his varied contacts and influences, makes a beautiful mosaic.—Lewis J. Moorman, M.D.

MUSCLE TESTING, TECHNIQUES OF MANUAL EXAMINATION. Lucille Adams, Marian Williams, Catherine Worthingham. Philadelphia and London: W. B. Saunders Company, 1946.

The object of this book is to present a quick and ready reference for determining and grading the extent of muscle weakness. It is based on the necessity of knowing which muscles are responsible for certain specified motions of the trunk and its extremities, especially in the treatment of infantile paralysis. The orthopedic surgeon must rely on physical therapists and other assistants to treat these cases, and this book will prove very reliable and helpful in rendering pictorial information in the form of a guide to all muscle movements.

The authors present a clear and understandable topography of muscles and their functions. The illustrations are excellent and show clearly, even to the layman, the motions that are brought about by certain anatomical structures. The accessory muscles described are especially valuable, provided the examiner has a good knowledge of the anatomy of the prime mover, as well as knowledge of the accessory muscles. Some of the sketches could be more clear in the directions of motions desired while testing them.

This manual will be useful in any orthopedic office where muscular and skeletal weakness is to be diagnosed. It will serve men reviewing anatomy for Board examinations and medical students studying anatomy of the muscles. It is particularly practicable because the illustrations and the text can be referred to quickly, without having to read a great deal of text material to obtain information. No orthopedic surgeon or institution for orthopedic surgery can afford to be without this manual for reference by technicians.—Earl D. McBride, M.D.

PRAYER FOR HEALTH

Almighty God, merciful Father, whose providence is over all thy works, look down with pity upon the diseases of my body, and the perturbations of my mind. Give thy Blessing, O Lord, to the means which I shall use for my relief, and restore ease to my body and quiet to my thoughts. Let not my remaining life be made useless by infirmities, neither let health, if thou shalt grant it, be employed by me in disobedience to thy laws; but give me such a sense of my pains, as may humble me before thee; and such remembrance of thy mercy as may produce honest industry, and holy confidence. And, O Lord, whether Thou ordainest my days to be past in ease or anguish, take not from me thy Holy Spirit; but grant that I may attain everlasting life, for the sake of Jesus Christ our Lord.—Samuel Johnson.

SYMPOSIUM ON ALLERGY

OFFERING THE MISSISSIPPI VALLEY SECTIONAL INSTRUCTIONAL COURSE IN ALLERGY

Monday, May 5, 1947 Through Thursday, May 8, 1947, Inclusive

UNDER THE AUSPICES OF

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE

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SPONSORED BY THE AMERICAN COLLEGE OF ALLERGISTS

SCHEDULE OF COURSES AND FACULTY

(subject to minor changes)

MONDAY, MAY 5, 1947

A.M.

8:00- 9:00 Registration

9:00- 9:10 Address of Welcome—Harry R. Wahl, M. D., Dean School of Medicine, University of Kansas

9:10-10:00 Chemistry and Allergy—Russell C. Mills, Ph. D., Ass't Prof. of Biochemistry, School of Medicine, University of Kansas

10:00-11:00 Physiological Aspects of Allergy—Kenneth E. Jochim, Ph. D., Prof. of Physiology, School of Medicine, University of Kansas

11:00-12:00 Antigen-Antibodies As Related to Allergy —Noble P. Sherwood, Prof. Bacteriology, School of Medicine, University of Kansas

12:00-12:15 Orientation—Chairman

P.M.

2:00- 3:00 Bacterial Allergy—Fred W. Wittich, M. D., Minneapolis, Minnesota

3:00- 4:00 Diagnosis of Allergic Diseases—M. Murray Peshkin, M. D., Instructor, College of Physicians and Surgeons, Post Graduate Medical Extension, Columbia University

4:00- 5:00 Hay Fever—Diagnosis and Management in Children—Albert Stoesser, M. D., Clinical Prof. of Pediatrics, University of Minnesota, Director of Allergy Clinics at University Hospital and Minneapolis General Hospital

5:00- 5:45 Hay Fever—Specific and Symptomatic Treatment—Lawrence J. Halpin, M. D., Cedar Rapids, Iowa

TUESDAY, MAY 6, 1947

A.M.

9:00-10:00 Botany—Roger Wodehouse, Ph. D., Assoc. Director of Research in Allergy, Lederle Laboratories, Pearl River, New York

10:00-11:00 Bronchial Asthma — Classification and Treatment—Leon Unger, M. D., Assoc. Prof. Department of Medicine, Northwestern University Medical School, Chicago, Illinois

11:00-12:15 Histaminic Cephalgia and Migraine—Bayard T. Horton, M. D., Mayo Clinic, Rochester, Minnesota

P.M.

2:00- 3:00 Bronchial Asthma in Infants and Children —M. Murray Peshkin, Instructor, College of Physicians and Surgeons, Post Graduate Medical Extension, Columbia University

3:00- 4:00 Chronic Cor Pulmonale—Complication of Chronic Lung Disease—Mahlon Delp, M. D., Ass't Prof. of Medicine, School of Medicine, University of Kansas

4:00- 5:00 Allergic Rhinitis—French K. Hansel, M. D., Assoc. Prof. Otolaryngology, Washington University

5:00- 5:45 Allergic Rhinitis—Management and Treatment—W. Byron Black, M. D., Kansas City, Missouri

WEDNESDAY, MAY 7, 1947

A.M.

9:00-10:00 Food Allergy—Orval R. Withers, M. D., Assoc. Prof of Medicine, School of Medicine, University of Kansas

10:00-11:00 Common Air Molds in Relation to Allergy —Homer E. Prince, M. D., Assoc. Prof. of Medicine, Baylor University, School of Medicine, Houston, Texas

11:00-11:30 Poison Ivy—Lawrence J. Halpin, M. D., Cedar Rapids, Iowa

11:30-12:15 Meniere's Disease—Bayard T. Horton, M. D., Mayo Clinic, Rochester, Minnesota

P.M.

2:00- 3:00 Antibiotics in Allergy—Edward H. Hashinger, Prof. of Clinical Medicine and Director of Graduate Medical Education, School of Medicine, University of Kansas

3:00- 4:00 Skin Allergy Due to Fungi—Charles C. Dennie, Prof. of Dermatology, School of Medicine, University of Kansas

4:00- 5:00 Dermatologic Allergy in Infancy and Early Childhood—Albert Stoesser, M. D., Clinical Prof. of Pediatrics, University of Minnesota, Director of Allergy Clinics at University Hospital and Minneapolis General Hospital

5:00- 5:45 Practical Management of Contact Dermatitis—R. L. Sutton, Jr., M. D., Assoc. Prof. of Dermatology, School of Medicine, University of Kansas

7:00-10:30 Dinner and Round Table Discussion

THURSDAY, MAY 8, 1947

A.M.

9:00- 9:45 Physical Allergy—Cecil Kohn, M. D., Kansas City, Missouri

9:45-10:30 Status Asthmaticus—Treatment—Allan G. Cazort, M. D., Little Rock, Arkansas

10:30-11:00 Pathology of Allergy—Leon Unger, M. D., Assoc. Prof. Department of Medicine, Northwestern University Medical School, Chicago, Illinois

11:00-11:30 Gastro-intestinal Allergy—Orval R. Withers, M. D., Assoc. Prof. of Medicine, School of Medicine, University of Kansas

11:30-12:15 Value of X-ray in Allergy—Diagnosis and Treatment—Galen M. Tice, Assoc. Prof. of Roentgenology, School of Medicine, University of Kansas

P.M. Laboratory and Clinical Sessions

Laboratory Session; Asthma Clinic; Hay Fever Clinic; Dermatology Clinic; Laboratory Technique

The fee for the course is $50.00 payable at the registration desk, University of Kansas Hospital, W. 39th St., and Rainbow Blvd., Kansas City, Kansas. Applications for the course and for hotel reservations should be placed with the chairman of the Program Committee, Orval R. Withers, M.D., 1418 Bryant Building, Kansas City, Missouri. Doctor Withers has made arrangements for hotel reservations at the following three hotels: Bellerive, 214 East Armour; LaSalle Apartment Hotel, 922 Linwood; and Ambassador Hotel, 3560 Broadway. Only twin bedrooms are available. All physicians interested in allergy are invited to take this course.

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*Levine, S Z.: J.A.M.A. 128:283, May 26, 1945

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OFFICERS OF COUNTY SOCIETIES, 1947

COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa	L. R. Kirby, Cherokee	L. T. Lancaster, Cherokee	Last Tues. each Second Month
Atoka-Bryan-Coal-Johnston	J. S. Fulton, Atoka	A. T. Baker, Durant	
Beckham	O. C. Standifer, Elk City	J. E. Levick, Elk City	Second Tuesday
Blaine	W. F. Bohlman, Watonga	Virginia Curtin, Watonga	Third Thursday
Caddo	George W. Conover, Jr., Anadarko	Edward T. Cook, Jr., Anadarko	Third Thursday
Canadian	G. L. Goodman, Yukon	Jack W. Myers, El Reno	Subject to Call
Carter	J. Hobson Veazey, Ardmore	J. Hobson Veazey, Ardmore	Second Tuesday
Cherokee	P. H. Medearis, Tahlequah	R. K. McIntosh, Jr., Tahlequah	First Tuesday
Choctaw	Reed Wolfe, Hugo	Fred D. Switzer, Hugo	
Cleveland	Orville Woodson, Norman	T. A. Ragan, Norman	Thursday nights
Comanche	Leslie T. Hamm, Lawton	Byron W. Aycock, Lawton	Third Tuesday
Cotton	G. W. Baker, Walters	Mollie Scism, Walters	Third Friday
Craig	P. L. Hayes, Vinita	J. M. McMillan, Vinita	
Creek	O. H. Cowart, Bristow	F. H. Sisler, Jr., Bristow	Second Tuesday
Custer	Willard H. Smith, Clinton	D. W. McCauley, Clinton	Third Thursday
Garfield	Francis M. Duffy, Enid	John R. Walker, Enid	Fourth Thursday
Garvin	Thomas F. Gross, Lindsay	John R. Callaway, Pauls Valley	Wednesday before Third Thursday
Grady	R. R. Coates, Chickasha	Wesley W. Davis, Chickasha	Third Thursday
Grant	I. V. Hardy, Medford	F. P. Robinson, Pond Creek	
Greer	Dwight D. Pierson, Mangum	J. B. Hollis, Mangum	
Harmon	W. G. Husband, Hollis	R. H. Lynch, Hollis	First Wednesday
Haskell	Wm. S. Carson, Keota	N. K. Williams McCurtain	
Hughes	Victor W. Pryor, Holdenville	L. A. S. Johnston, Holdenville	First Friday
Jackson	E. W. Mabry, Altus	J. P. Irby, Altus	Last Monday
Jefferson	J. A. Dillard, Waurika	O. J. Hagg, Waurika	Second Monday
Kay	E. C. Mohler, Ponca City	Edwin Yeary, Ponca City	Second Thursday
Kingfisher	John R. Taylor, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa	J. Wm. Finch, Hobart	R. F. Shriner, Jr., Hobart	
LeFlore	S. D. Bevill, Poteau	Rush L. Wright, Poteau	
Lincoln	J. S. Rollins, Prague	Ned Burleson, Prague	First Wednesday
Logan	James Petty, Guthrie	J. E. Souter, Guthrie	Last Tuesday
Mayes	E. H. Werling, Pryor	Paul B. Cameron, Pryor	
McClain	I. N. Kolb, Blanchard	W. C. McCurdy, Purcell	
McCurtain	J. T. Moreland, Idabel	R. H. Sherrill, Broken Bow	Fourth Tuesday
McIntosh	F. R. First, Checotah	W. A. Tolleson, Eufaula	Third Thursday
Muskogee-Sequoyah-Wagoner	W. P. Fite, Muskogee	William N. Weaver, Muskogee	First Tuesday
Noble	A. M. Evans, Perry	J. W. Driver, Perry	
Okfuskee	L. J. Spickard, Okemah	M. L. Whitney, Okemah	
Oklahoma	F. Redding Hood, Oklahoma City	George E. Kimball, Oklahoma City	
Okmulgee	John Cotteral, Henryetta	C. E. Smith, Henryetta	Fourth Tuesday
Osage	R. O. Smith, Hominy	Gayfree Ellison, Pawhuska	Second Monday
Ottawa	B. Wright Shelton, Miami	W. Jackson Sayles, Miami	Third Monday
Pawnee-Payne	C. H. Haddox, Pawnee	C. W. Moore, Stillwater	Second Thursday
Pittsburg	Homer C. Wheeler, McAlester	Edward D. Greenberger, McAlester	Third Friday
Pontotoc-Murray	E. D. Padberg, Ada	Ollie McBride, Ada	First Wednesday
Pottawatomie	Charles F. Paramore, Shawnee	Clinton Gallaher, Shawnee	First and Third Saturday
Pushmataha	John S. Lawson, Clayton	B. M. Huckabay, Antlers	
Rogers	W. A. Howard, Chelsea	P. S. Anderson, Claremore	
Seminole	Claude B. Knight, Wewoka	Mack I. Shanholz, Wewoka	Third Wednesday
Stephens	Everett King, Duncan	Fred L. Patterson, Duncan	Third Wednesday
Texas	Daniel S. Lee, Guymon	E. L. Buford, Guymon	
Tillman	G. A. Tallant, Frederick	O. G. Bacon, Frederick	
Tulsa	E. O. Johnson, Tulsa	John E. McDonald, Tulsa	Second and Fourth Monday
Washington Nowata	Thomas Wells, Bartlesville	L. B. Word, Bartlesville	Second Wednesday
Washita	A. H. Bungardt, Cordell	Aubrey E. Stowers, Sentinel	
Woods	C. A. Traverse, Alva	O. E. Templin, Alva	Last Tuesday Odd Months
Woodward	Myron England, Woodward	C. W. Tedrowe, Woodward	Second Thursday Even Months